

FINAL REMEDIAL ACTION CONSTRUCTION DRAWINGS

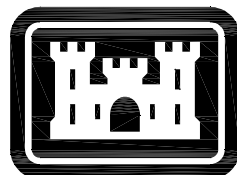
THE ELLIS PROPERTY SUPERFUND SITE

150 SHARP ROAD

EVESHAM TOWNSHIP

BURLINGTON COUNTY, NEW JERSEY

PREPARED FOR:



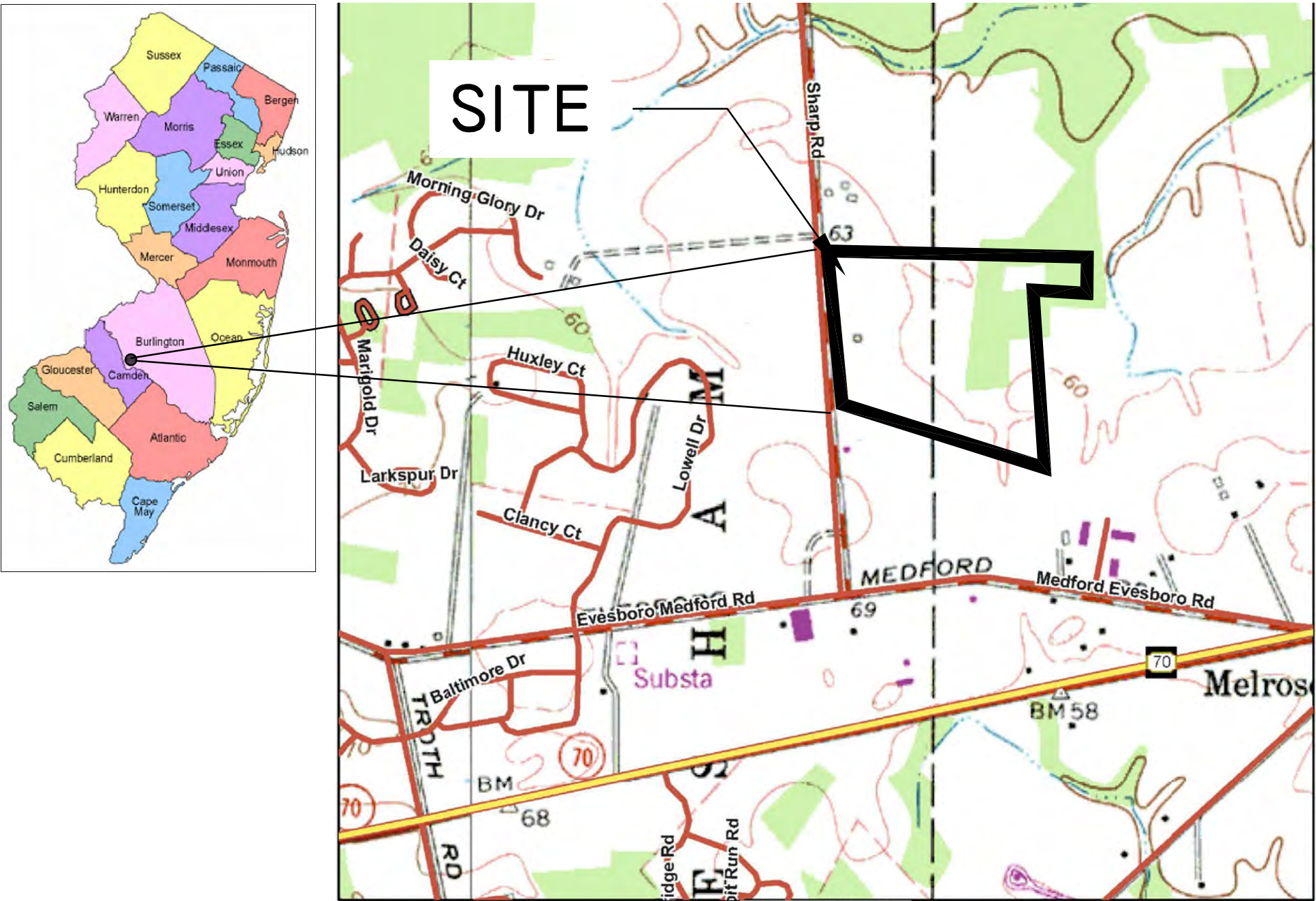
US Army Corps  
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Kansas City District

PREPARED BY:

**HDR OBG** a joint venture

MARCH 2019

CONSTRUCTION DRAWING  
INDEX



LOCATION MAP  
SCALE: 1" = 1000'

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1. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS BEFORE BEGINNING WORK.
3. SITE IS LOCATED AT 150 SHARP ROAD IN EVESHAM TOWNSHIP, BURLINGTON COUNTY, NEW JERSEY.
4. ACCESS TO THE SITE WAS OBTAINED THROUGH A CONSENT ORDER ISSUED IN 1996.
5. ALL SITE FEATURES SHALL BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES NOTED SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A GEOPHYSICAL SURVEY COMPLETED TO LOCATE ALL EXISTING UNDERGROUND UTILITIES AND STRUCTURES WHETHER SHOWN ON THIS PLAN OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE SURVEY SHALL INCLUDE THE LOCATION OF THE EXISTING GROUNDWATER BARRIER WALL.
7. IN THE EVENT THE CONTRACTOR DAMAGES ANY EXISTING UTILITY SERVICE CAUSING SERVICE INTERRUPTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONTRACTING OFFICER.
8. PROVISIONS SHALL BE TAKEN TO MINIMIZE NOISE. CONSTRUCTION ACTIVITIES ARE NOT PERMITTED BETWEEN THE HOURS OF 6PM TO 7AM..
9. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING UNAUTHORIZED PERSONS DO NOT ENTER THE EXCLUSION ZONE. SNOW FENCE OR OTHER ACCEPTABLE MEANS SHALL BE PROVIDED AROUND THE HAZARDOUS WORK ZONE TO RESTRICT ACCESS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY OF THE SITE. ANY REPAIRS RESULTING FROM DAMAGE CAUSED BY TRESPASSERS SHALL BE AT THE EXPENSE OF THE CONTRACTOR. MINIMUM SECURITY MEASURES SHALL BE AS REQUIRED BY THE CONTRACT SPECIFICATIONS.
11. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS TO THE SATISFACTION OF THE CONTRACTING OFFICER.

1. SURVEY BY MERRESTONE CONSULTING INC. DATED NOVEMBER 12, 2014.
2. HORIZONTAL DATUM = NAD83 (NAD2011) EPOCH 2010.0000.
3. VERTICAL DATUM = NAVD 1988 (GEOID 2012A).
4. LOCATION OF THE SHEET PILE WALL IS BASED ON SHEET 3 OF 7 OF THE PLAN SET ENTITLED ELLIS PROPERTY SUPERFUND SITE, GROUND WATER BARRIER WALL, DATED APRIL 22, 2011, PREPARED BY THE LOUIS BERGER GROUP, INC.

1. THE CONTRACTOR MUST TAKE EVERY EFFORT TO REDUCE THE AMOUNT OF WASTE THAT IS GENERATED, TO REUSE MATERIALS WITH THE CONCURRENCE OF THE CONTRACTING OFFICER, AND TO SEGREGATE WASTE MATERIALS FOR WASTE DISPOSAL.
2. ALL WASTE MATERIALS MUST BE PROPERLY TRANSPORTED, STORED, HANDLED, AND CONTAINED TO PREVENT SPILLS, LEAKAGE, DISCHARGE OR RELEASE TO THE ENVIRONMENT. WASTE CONTAINERS MUST BE PROPERLY LABELED TO IDENTIFY CONTENTS.
3. CONTRACTOR MUST NOT DISCHARGE OR DISPOSE OF ANY WASTE INTO ANY WATER BODY.
4. CONTRACTOR MUST DISPOSE OF ALL WASTE MATERIALS ACCORDING TO ALL LOCAL, STATE AND FEDERAL REGULATIONS.
5. THE REGIONAL OFF-SITE COORDINATOR FOR EPA REGION 2 SHALL APPROVE THE WASTE DISPOSAL FACILITY SELECTED BY THE CONTRACTOR. ALL WASTE MANIFESTS REQUIRED FOR THE PROJECT SHALL BE PREPARED AND SIGNED BY THE CONTRACTING OFFICER.

1. EXCAVATION EQUIPMENT AND WORK SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS INCLUDING BUT NOT LIMITED TO OSHA 29 CFR 1926, SUBPARTS M, O, AND P.
2. THE CONTRACTOR SHALL PERFORM THE EXCAVATIONS AT THE MINIMUM DEPTHS SHOWN ON THE PLANS. THE EXCAVATION LIMITS SHOWN MAY BE ENLARGED BASED ON THE RESULTS OF THE POST EXCAVATION SAMPLING RESULTS. ALL EXCAVATIONS BEYOND THE DEPTHS OR LIMITS SHOWN SHALL BE APPROVED BY THE CONTRACTING OFFICER PRIOR TO COMMENCING.
3. ESTIMATED VOLUME OF SOIL TO BE REMOVED IS NOT NECESSARILY EQUAL TO THE ACTUAL VOLUME THAT WILL BE REMOVED. THE CONTRACTOR SHALL SLOPE AND/OR SHORE EXCAVATIONS TO PROTECT EXISTING STRUCTURES AND UTILITIES THAT ARE TO REMAIN.
4. METHODS USED FOR PROTECTING INDIVIDUALS WITHIN AN EXCAVATION SHALL MEET THE REQUIREMENTS OF 29 CFR 1926.625. STRUCTURAL METHODS, IF NOT DESIGNED USING TABULATED DATA SHALL BE DESIGNED AND CERTIFIED BY A NJ LICENSED PROFESSIONAL ENGINEER.
5. PROVIDE BARRICADES, COVERINGS, OR OTHER TYPES OF PROTECTION NECESSARY TO PREVENT DAMAGE TO EXISTING STRUCTURES AND UTILITIES TO REMAIN IN PLACE.
6. COORDINATES PROVIDED FOR STAKE OUT ARE BASED ON STATE PLANNED DATUM AND ARE ESTIMATED TO THE NEAREST HUNDREDTH OF A FOOT +/-.
7. CONTRACTOR MUST PROVIDE LADDERS, STAIRWAYS, RAMPS, OR OTHER SAFE MEANS OF EGRESS IN ALL EXCAVATIONS THAT ARE FOUR FEET DEEP OR MORE SO THAT A WORKER DOES NOT NEED TO TRAVEL MORE THAN 25 FEET IN ANY DIRECTION BEFORE BEING ABLE TO EXIT THE EXCAVATION.
8. DIRT, DEBRIS, AND OTHER MATERIAL MUST BE EFFECTIVELY STORED AND RETAINED AT LEAST TWO FEET FROM THE EDGE OF EXCAVATIONS THAT PERSONNEL MAY BE REQUIRED TO ENTER.
9. THE CONTRACTOR SHALL LIMIT THE AREA OF OPEN EXCAVATION TO NOT MORE THAN 20,000 SF AT ANY ONE TIME.

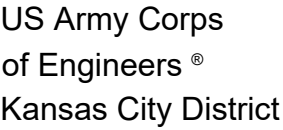
1. PROVISIONS SHALL BE MADE TO DIVERT SURFACE RUNOFF AWAY FROM EXPOSED AREAS AND OPEN EXCAVATIONS. RUNOFF THAT COMES IN CONTACT WITH IMPACTED SOILS SHALL BE COLLECTED AND EITHER TREATED IN A TEMPORARY GROUNDWATER TREATMENT SYSTEM PROVIDED BY THE CONTRACTOR OR DISPOSED OFF-SITE TO AN APPROVED FACILITY.
2. ALL GRADED OR DISTURBED AREAS, INCLUDING SLOPES, SHALL BE PROPERLY PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.
3. ALL EROSION AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED, AND MAINTAINED IN ACCORDANCE WITH THE SEDIMENT CONTROL PLAN AND THE "NEW JERSEY EROSION CONTROL STANDARDS".
4. AREAS THAT ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF FOUR INCHES PRIOR TO PLACEMENT OF TOPSOIL.
5. ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS AND BUILDING CODES.
6. ALL FILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 12 INCHES IN THICKNESS.
7. FILL MATERIAL SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH, OR PREVENT, CONSTRUCTION OF SATISFACTORY FILLS. FILL MATERIAL MUST MEET THE DEFINITION OF CLEAN FILL PROMULGATED BY NJAC 7:26E-1.8 AND NJDEP'S FILL MATERIAL GUIDANCE FOR SRP SITES.
8. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
9. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
10. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.
11. STOCKPILES, BORROW AREAS, AND SPOIL AREAS SHALL BE PROTECTED AS REQUIRED BY THE CONTACT DOCUMENTS. STOCKPILES SHALL NOT BE STORED WITHIN 50 FEET OF A WATER BODY OR IN ANY DRAINAGE PATH. ALL MATERIALS SHALL BE ENCIRCLED WITH SILT FENCE AND COVERED WHEN NOT IN USE.

A PRELIMINARY SCHEDULE FOR THE ACTIVITIES NECESSARY TO COMPLETE THE REMEDIAL ACTION (RA) IS BELOW. THE ACTUAL SEQUENCE WILL BE DETERMINED BY THE CONTRACTOR AND SHALL BE INCLUDED IN THE WORK PLAN THAT WILL BE SUBMITTED PRIOR TO COMMENCING THE WORK.

1. UNDERGROUND UTILITY LOCATION: ALL UNDERGROUND UTILITIES AND THE EXISTING GROUNDWATER BARRIER WALL SHALL BE LOCATED.
2. MOBILIZATION: TRAILERS AND EQUIPMENT SHALL BE MOBILIZED TO THE SITE. ADDITIONALLY THE CONTRACTOR SHALL BEGIN SECURING THE POWER DROP FOR THE ISTT. THE ISTT IS NOT INCLUDED IN THIS CONTRACT AND WILL BE PERFORMED UNDER A SEPARATE FUTURE CONTRACT.
3. SITE PREPARATION: INSTALL THE TEMPORARY CHAIN LINK FENCE, ALL EROSION CONTROL MEASURES, CONSTRUCT THE STABILIZED CONSTRUCTION ENTRANCE.
4. TREE CLEARING: CLEAR TREES FROM THE EXCAVATION AREA. CHIP TREES AND SPREAD IN AREAS OUTSIDE THE CONSTRUCTION LIMITS OR STOCKPILE FOR USE AS MULCH DURING FINAL RESTORATION.
5. DEMOLITION/WELL ABANDONMENT: ABANDON EXISTING PIPING IN THE RA AREA AND RELOCATE PIPES AROUND RA AREA, AS SHOWN ON PLANS.
6. EXCAVATE AREA A: THE VEGETATION AND TOPSOIL SHALL BE REMOVED FROM EXCAVATION AREA A. TOPSOIL SHALL BE STOCKPILED FOR REUSE. THE TOP TEN FEET OF CLEAN SOIL SHALL ALSO BE REMOVED AND STOCKPILED FOR REUSE. AFTER REMOVING THE CLEAN SOIL, THE IMPACTED SOIL SHALL BE EXCAVATED TO A TARGET DEPTH OF 20 FEET BGS. SAMPLES SHALL BE COLLECTED TO VERIFY THE LIMITS. NOTE THAT THE SIDE OF THE EXCAVATION ADJACENT TO THE ISTT AREA MAY STILL BE CONTAMINATED AND IS INTENDED TO BE TREATED BY ISTT UNDER A SEPARATE CONTRACT. ONCE THE SAMPLE RESULTS ARE RECEIVED AND APPROVED BY THE CONTRACTING OFFICER, THE AREA SHALL BE BACKFILLED. ONCE BACKFILLED THE AREA SHALL BE COVERED WITH STOCKPILED TOPSOIL TO A DEPTH OF 4 INCHES, SEEDED AND COVERED WITH MULCH.
7. EXCAVATE AREA B: THE VEGETATION AND TOPSOIL SHALL BE STRIPPED IN 5,000 SQUARE FEET AREAS OF EXCAVATION AREA B. ONCE EACH AREA IS STRIPPED, THE TOP TEN FEET OF SOIL WILL BE REMOVED AND STOCKPILED FOR REUSE. THE IMPACTED SOILS WILL THEN BE REMOVED TO THE TARGET DEPTHS (BETWEEN 15-18 FEET BGS). CONFIRMATORY SAMPLES WILL BE COLLECTED. NOTE THAT THE SIDE OF THE EXCAVATION ADJACENT TO THE ISTT AREA MAY STILL BE CONTAMINATED AND IS INTENDED TO BE TREATED BY ISTT UNDER A SEPARATE CONTRACT. ONCE PASSING RESULTS ARE RECEIVED AND APPROVED BY THE CONTRACTING OFFICER, THE AREA SHALL BE BACKFILLED. ONCE BACKFILLED, THE AREA SHALL BE TOPPED WITH TOPSOIL, SEEDED AND MULCHED.

1. ALL TRAFFIC CONTROL DEVICES USED FOR MAINTENANCE AND PROTECTION OF TRAFFIC SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS AS SET FORTH IN THE NATIONAL MUTCD 2003 EDITION.
2. THE CONTRACTOR SHALL NOT PARK EQUIPMENT OR STORE MATERIALS OVERNIGHT WHERE IT IS DEEMED BY THE CONTRACTING OFFICER TO BE A HAZARD TO TRAFFIC.
3. THE CONTRACTOR SHALL NOT ALLOW CONSTRUCTION RELATED VEHICLES OR ACTIVITIES TO IMPEDE OR ADVERSELY AFFECT THE FLOW OF TRAFFIC ON THE SHARP ROAD. THE CONTRACTOR SHALL NOT ALLOW CONSTRUCTION RELATED VEHICLES TO QUEUE ALONG SHARP ROAD WITHOUT PRIOR APPROVAL FROM THE CONTRACTING OFFICER.
4. DURING THE PROGRESS OF CONSTRUCTION, TRUCKS ENTERING OR LEAVING THE SITE SHALL USE ONLY ROADS THAT PERMIT TRUCK TRAVEL AS GOVERNED BY ANY AGENCY HAVING JURISDICTION. ALL ROADWAYS AFFECTED BY CONSTRUCTION OF THIS PROJECT SHALL BE RESTORED TO PRECONSTRUCTION CONDITIONS.
5. FLAGMEN PROVIDED BY THE CONTRACTOR SHALL BE ON SITE WHENEVER TRUCKS ENTER OR EXIT THE SITE TO ALLOW THE SAFE ENTERING AND EXITING OF SINGLE VEHICLES ONTO SHARP ROAD AND TO MINIMIZE QUEUING ON SHARP ROAD.

1. THE CONTRACTOR SHALL REDUCE VEHICLE IDLING. ALL VEHICLES, BOTH ON AND OFF ROAD (INCLUDING CONSTRUCTION EQUIPMENT) SHALL BE SHUT OFF WHEN NOT IN USE FOR MORE THAN 5 MINUTES.
2. CONTRACTORS MUST NOT SPILL, DISCHARGE, OR RELEASE ANY HAZARDOUS MATERIAL OR CHEMICAL UPON OR FROM THE SITE. A RELEASE IS DEFINED AS ANY UNPLANNED RELEASE, LEAKING, PUMPING, POURING, EMITTING, DUMPING, DISCHARGING, EMPTYING, OR DISPOSING OF A HAZARDOUS MATERIAL OR CHEMICAL (INCLUDING WASTEWATER OR CHEMICALLY TREATED WATER) FROM A PRIMARY CONTAINMENT.
3. CONTRACTOR EQUIPMENT MUST BE PROPERLY MAINTAINED AND IS SUBJECT TO INSPECTION BY THE CONTRACTING OFFICER. IF EQUIPMENT IS FOUND LEAKING, IT MUST IMMEDIATELY BE CONTAINED, STOPPED, AND REPAIRED. ALL ASSOCIATED COSTS INCLUDING CLEANUP WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. UNREPORTED SPILLS, DISCHARGES, AND RELEASES ARE A VIOLATION OF FEDERAL, STATE, AND LOCAL LAWS. IF A CHEMICAL OR UNKNOWN LIQUID IS SPILLED, DISCHARGED, OR RELEASED TO THE PROPERTY, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE CONTRACTING OFFICER.
5. WHEN A SPILL, DISCHARGE, OR RELEASE IS DIRECTLY ATTRIBUTABLE TO A CONTRACTOR, THEIR SUBCONTRACTOR OR SUPPLIER, THE CONTRACTOR MUST PROVIDE ANY ASSISTANCE REQUIRED TO IDENTIFY THE CAUSE OF THE RELEASE AND TO CLEAN UP THE RELEASE, HOWEVER CONTRACTORS MUST NOT BEGIN CLEAN UP UNTIL AUTHORIZED TO DO SO BY THE CONTRACTING OFFICER.
6. ANY CHEMICAL SPILL, DISCHARGE, OR RELEASE CAUSED BY THE CONTRACTOR MUST BE CLEANED TO THE THE CONTRACTING OFFICER'S SATISFACTION. ALL ASSOCIATED CLEANUP COSTS ARE THE RESPONSIBILITY OF THE RESPONSIBLE CONTRACTOR.



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<b>HDR</b> <b>OBG</b> a joint venture U.S. ARMY CORPS OF ENGINEERS KANSAS CITY DISTRICT KANSAS CITY, MISSOURI	Date: 08/27/2015
	Designed by: TC
	Drawn by: SK
	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

Sheet  
Reference  
Number:

G-01



US Army Corps  
of Engineers ®  
Kansas City District

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Symbol	Description	Date	Appr.
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/11/15	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/10/15	
3	FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	07/16/15	
1	INTERMEDIATE DESIGN	08/27/15	

Designed by:	Date:	Drawn by:	Plot scale:
TC	08/27/2015	SK	
Checked by:	Submitted by:	CADD File Name:	
TC	TC		

U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

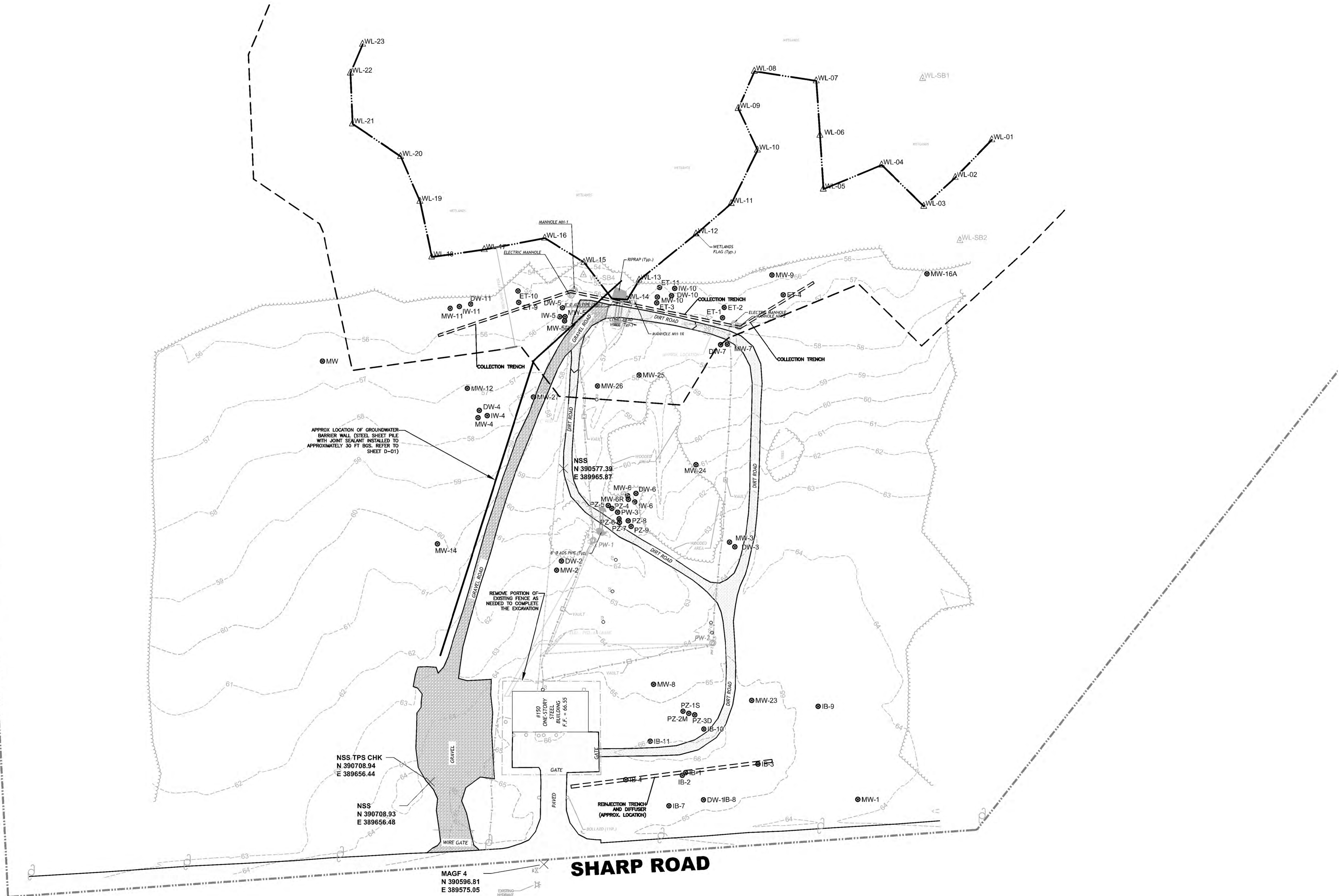
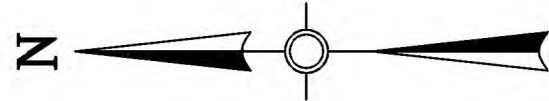
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ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

EXISTING CONDITIONS  
PLAN

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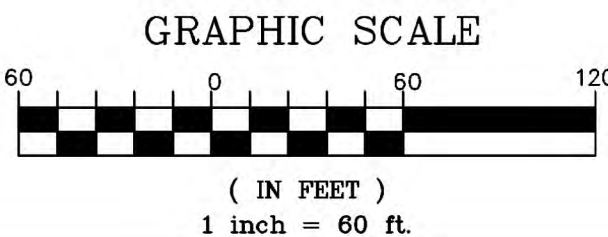
V-01



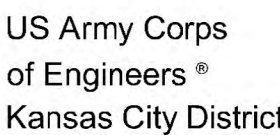
- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
  - WETLAND LIMIT
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - BUILDING OUTLINE
  - MONITORING WELL LOCATION
  - GRAVEL ROAD
  - DIRT ROAD
  - PAVED ROAD
  - MANHOLE
  - WETLAND FLAG
  - WETLAND SOIL BORING
  - TREE LINE
  - 100-FT WETLAND BUFFER
  - UNDERGROUND WATER PIPE
  - UNDERGROUND CONTROL CABLE (APPROX. LOCATION)
  - UNDERGROUND ELECTRIC LINE (APPROX. LOCATION)
  - ELECTRIC POLE
  - CHAIN LINK FENCE
  - 1" DIA. PVC CLEANOUT
  - SURVEY CONTROL POINT (NORTHING AND EASTING)

- NOTES:**
- FOR GENERAL NOTES REFER TO SHEET G-01.
  - THE EXISTING CHAIN LINK FENCE AROUND THE SITE BUILDING MUST BE REMOVED AS A PART OF EXCAVATION.

- SURVEY NOTES:**
- SURVEY BY MERESTONE CONSULTING INC. DATED NOVEMBER 12, 2014.
  - HORIZONTAL DATUM = NJSPCS - NAD83(NA2011) EPOCH 2010.0000.
  - VERTICAL DATUM = NAVD 1988 (GEOID 2012A).
  - LOCATION OF THE SHEET PILE WALL IS BASED ON SHEET 3 OF 7 OF THE PLAN SET ENTITLED ELLIS PROPERTY SUPERFUND SITE, GROUND WATER BARRIER WALL, DATED APRIL 22, 2011, PREPARED BY THE LOUIS BERGER GROUP, INC.
  - APPROXIMATE PROPERTY BOUNDARY WAS OBTAINED FROM 100% DESIGN DRAWINGS PREPARED BY ACRES INTERNATIONAL CORPORATION DATED 09/10/1998.







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5	REVISED FINAL RA CONSTRUCTION DRAWINGS	06/11/19		
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1	INTERMEDIATE DESIGN	06/27/15		

Designed by: TC	Date: 08/27/2015
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U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

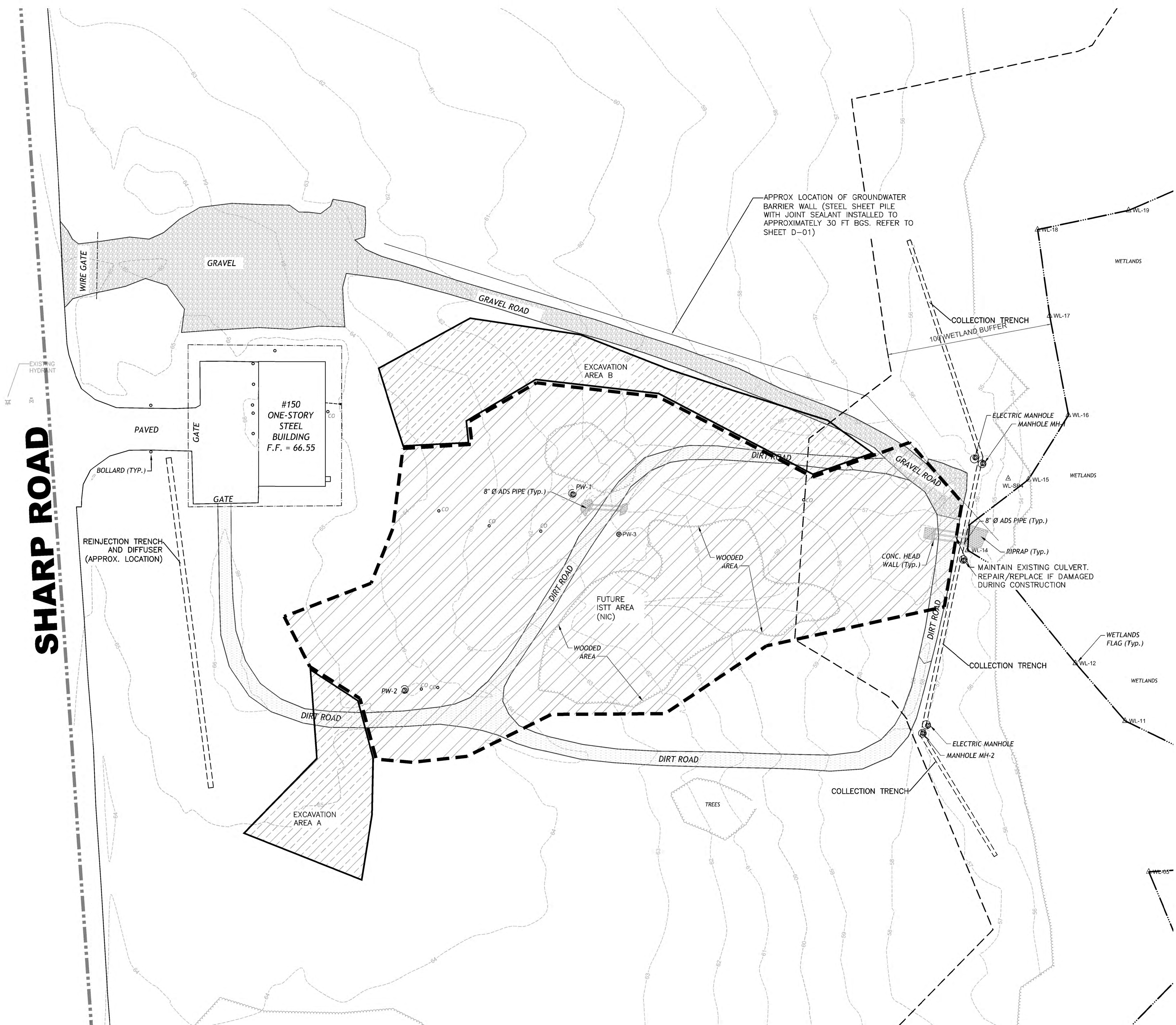
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ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY
















REMEDIAL ACTION  
SITE PLAN

Sheet  
Reference  
Number:

C-01

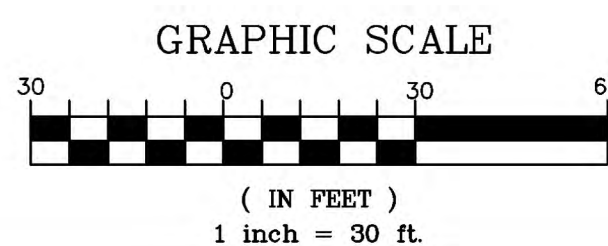


LEGEND:

- | APPROXIMATE PROPERTY BOUNDARY   |   |
|---|---|
|    | WETLAND LIMIT                                       |
|   | CONTOUR MAJOR                                       |
|  | CONTOUR MINOR                                       |
|  | BUILDING OUTLINE                                    |
|  | GRAVEL ROAD   |
|  | DIRT ROAD   |
|  | PAVED ROAD  |
|  | MANHOLE   |
|  | WETLAND FLAG  |
|  | WETLAND SOIL BORING                                 |
|  | TREE  |
|  | 100'-FT WETLAND BUFFER                              |
|  | CHAIN LINK FENCE                                    |
|  | EXCAVATION AREA                                     |
|  | IN SITU THERMAL TREATMENT AREA<br>(NOT IN CONTRACT) |

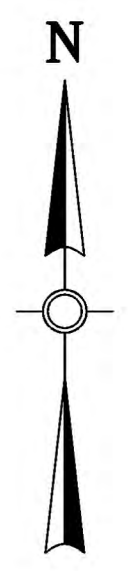
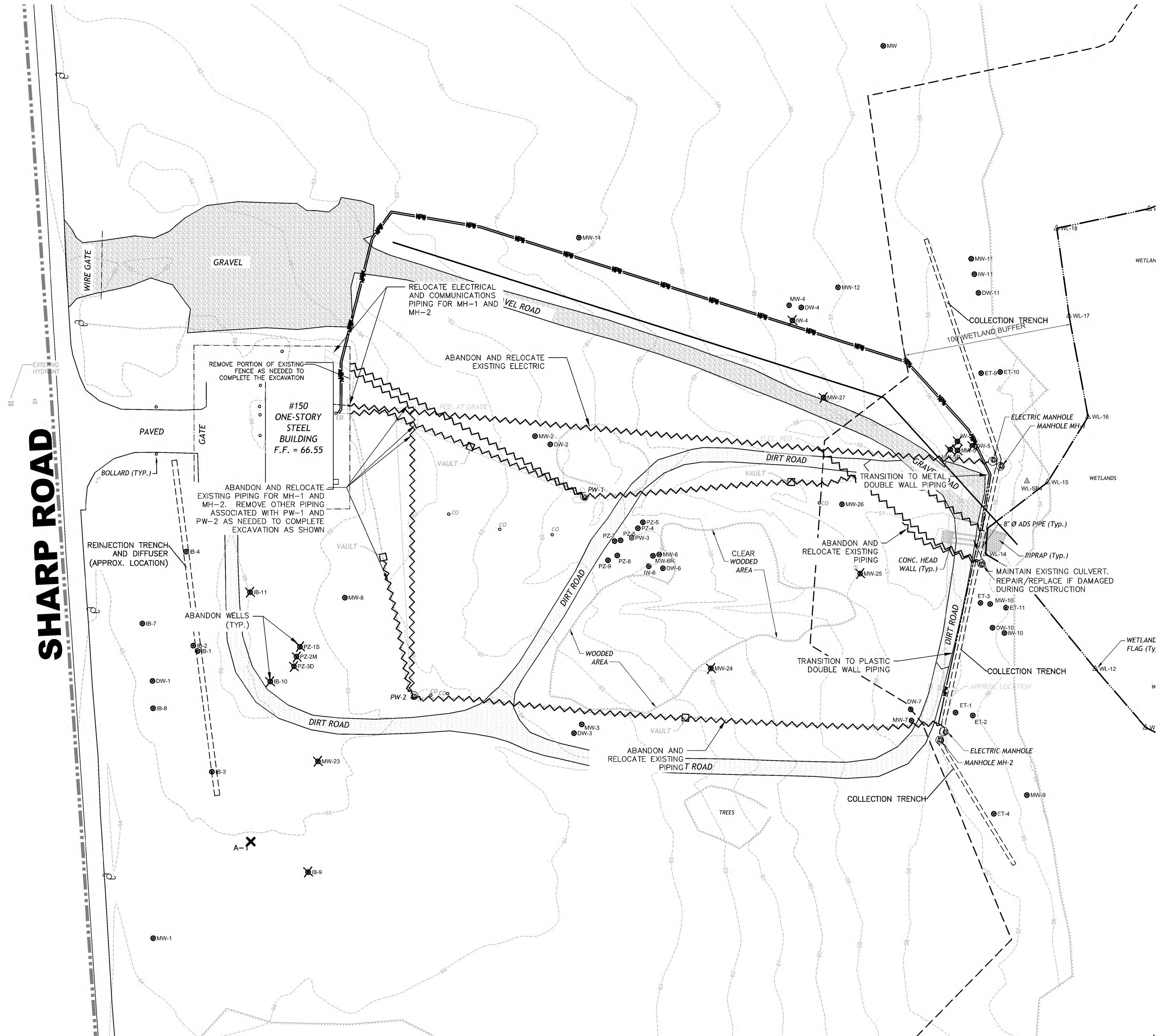
NOTES:

1. FOR GENERAL NOTES REFER TO SHEET G-01.
2. AREA SHOWN FOR EXCAVATION REPRESENTS THE BOTTOM AREA OF THE EXCAVATION.



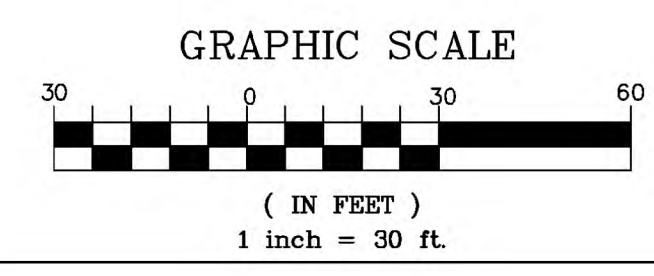


SHARP ROAD



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
  - WETLAND LIMIT
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - BUILDING OUTLINE
  - MONITORING WELL LOCATION
  - GRAVEL ROAD
  - DIRT ROAD
  - PAVED ROAD
  - MANHOLE
  - WETLAND FLAG
  - WETLAND SOIL BORING
  - TREE LINE
  - 100-FT WETLAND BUFFER
  - UNDERGROUND WATER PIPE
  - UNDERGROUND CONTROL CABLE (APPROX. LOCATION)
  - UNDERGROUND ELECTRIC LINE (APPROX. LOCATION)
  - ELECTRIC POLE
  - CHAIN LINK FENCE
  - APPROXIMATE FLOOD PLAIN BOUNDARY
  - 1" DIA. PVC CLEANOUT
  - ABANDON WELL
  - ABANDON PIPE
  - PROPOSED GROUNDWATER PIPE (PLASTIC)
  - PROPOSED GROUNDWATER PIPE (METAL)
  - PROPOSED ELECTRIC

- NOTES:**
- FOR GENERAL NOTES REFER TO SHEET G-01.
  - ALL PIPING AND ASSOCIATED COMMUNICATION AND ELECTRIC FOR MH-1 AND MH-2 SHALL BE RELOCATED AS SHOWN ON THIS PLAN. PIPING FOR EW-1 AND EW-2 THAT ARE LOCATED INSIDE THE ISTT AREA SHALL BE REPLACED WITH MATERIALS THAT WILL BE CAPABLE OF WITHSTANDING TEMPERATURES ANTICIPATED DURING THE ISTT. ISTT WILL BE CONDUCTED IN THE FUTURE UNDER A SEPARATE CONTRACT.
  - PUMPING WELLS SHALL BE PROTECTED DURING CONSTRUCTION.
  - REPLACEMENT PIPING SHALL BE INSTALLED AS METAL DOUBLE WALL PIPING ALONG THE BOUNDARY OF THE FUTURE ISTT AREA, AS SHOWN ON THIS DRAWING.



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6	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/27/19
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	02/17/19
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	09/19/18
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1	INTERMEDIATE DESIGN	08/27/14

Symbol Description Date Appr.

Date: 08/27/2015

Designed by: TC

Drawn by: SK

Checked by:

Submitted by: TC

Drawing code:

Plot scale:

CADD File Name:

U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

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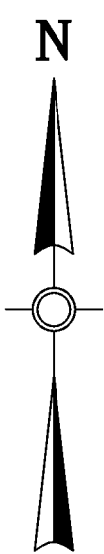
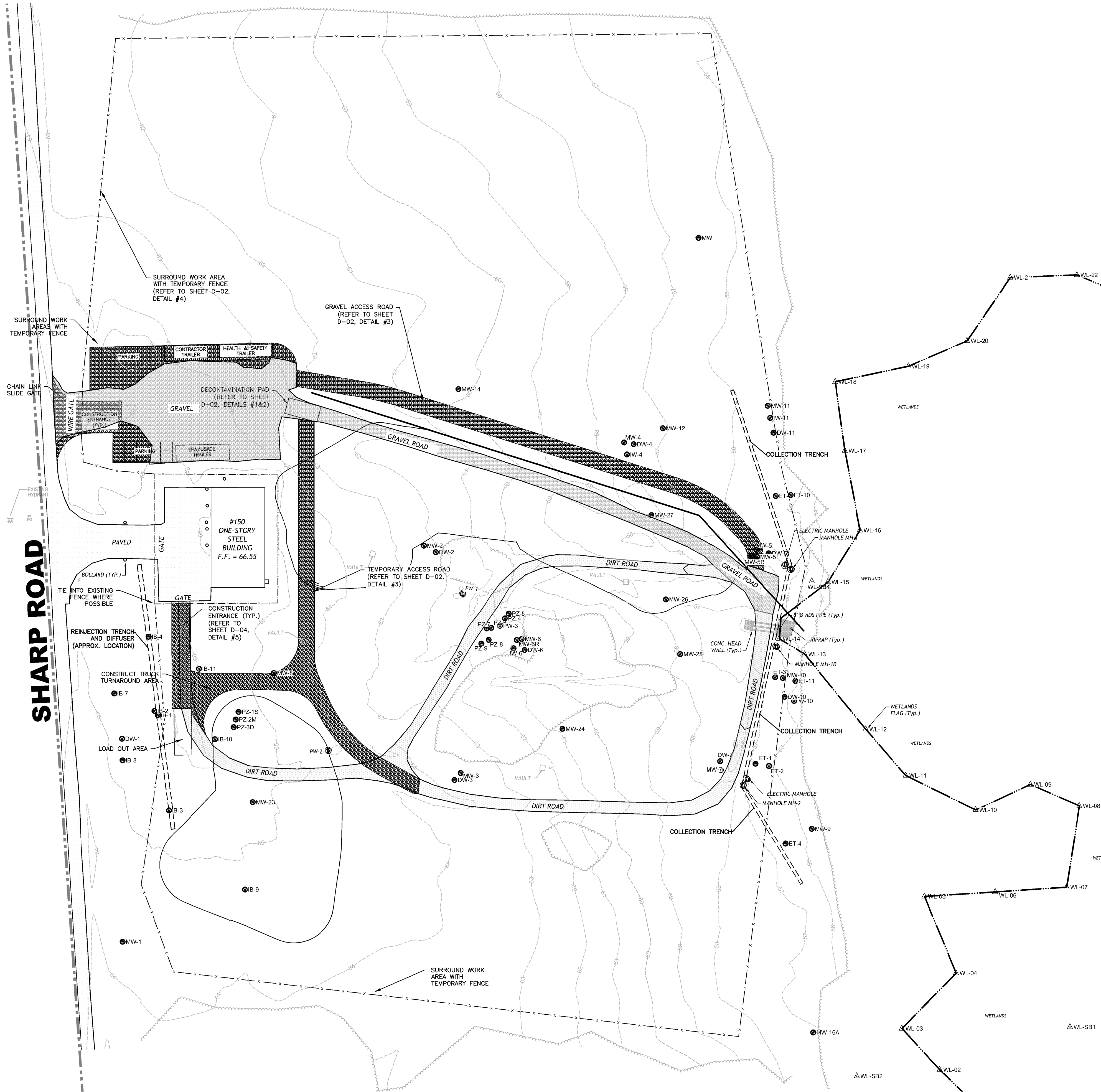
ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

UTILITY RELOCATION PLAN

Sheet  
Reference  
Number:

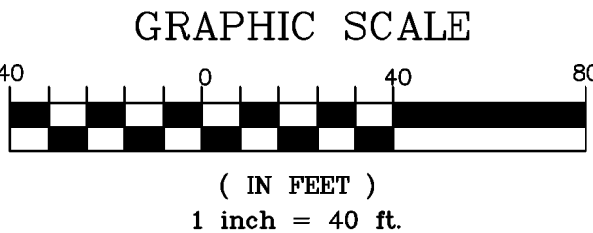
C-02





- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
  - WETLAND LIMIT
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - BUILDING OUTLINE
  - MONITORING WELL LOCATION
  - SOIL BORING LOCATION
  - GRAVEL ROAD
  - DIRT ROAD
  - PAVED ROAD
  - MANHOLE
  - WETLAND FLAG
  - WETLAND SOIL BORING
  - TREE LINE
  - CHAIN LINK FENCE
  - EXCAVATION LIMIT
  - PROPOSED GRAVEL ROAD
  - TEMPORARY FENCE

- NOTES:**
- FOR GENERAL NOTES REFER TO SHEET G-01.
  - CONTRACTOR SHALL KEEP OPERATIONS WITHIN THE LIMIT OF WORK SHOWN ON DRAWING AND FULLY ENCLOSE THE WORK AREA WITH A FENCE TO PREVENT UNAUTHORIZED ACCESS. CONTRACTOR SHALL PROVIDE PLAN SHOWING THE LAYOUT OF ITS OPERATIONS INCLUDING BUT NOT LIMITED TO STOCK PILE AREAS, EROSION CONTROL MEASURES, ETC. FOR CONTRACTING OFFICER APPROVAL.
  - OVERHEAD WIRES CROSS PERPENDICULAR TO THE ROAD ENTRANCE: A PAIR OF COMMUNICATION LINES CROSS APPROXIMATELY 18 FEET ABOVE GRADE AND THREE POWER LINES CROSS AT APPROXIMATELY 30 FEET ABOVE GRADE.



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Symbol	Description	Date	Appr.
6	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/29/15	
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/11/15	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/10/15	
3	FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	07/16/15	
1	INTERMEDIATE DESIGN	06/27/15	

Designed by:	Dates:	Drawn by:	Drawing code:	Checked by:	Plot scale:	Submitted by:	CADD File Name:
TC	08/27/2015	SK		TC			

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KANSAS CITY, MISSOURI

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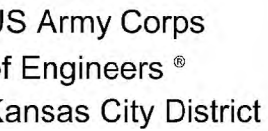
ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

CONSTRUCTION  
STAGING PLAN

Sheet  
Reference  
Number:

C-03





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Symbol	Description	Date	Appr.
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	06/11/19	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	06/10/19	
3	FINAL RA CONSTRUCTION DRAWINGS	06/27/19	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	01/16/19	
1	INTERMEDIATE DESIGN	06/27/19	

Designed by: TC	Date: 08/27/2015
Drawn by: SK	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

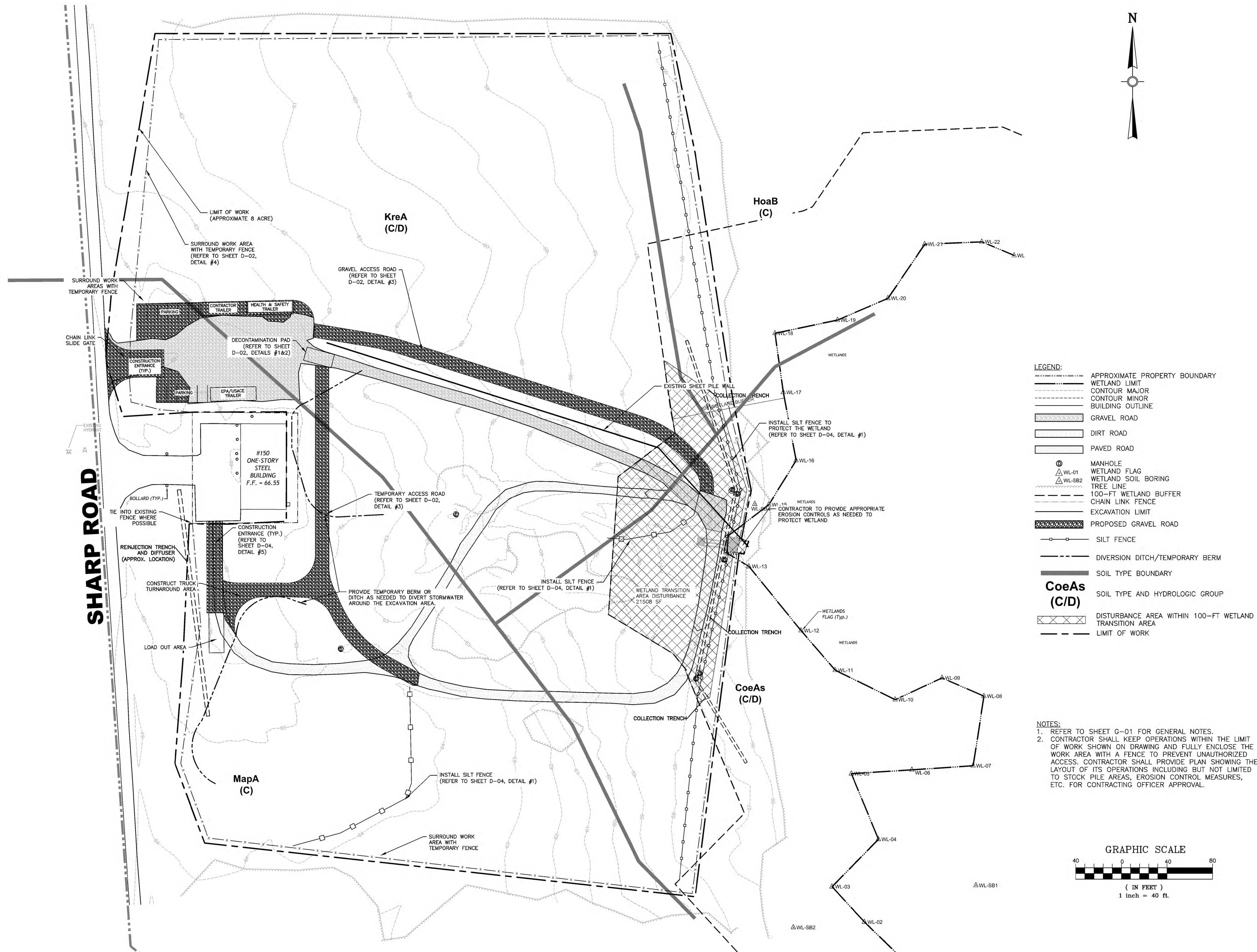
U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

**HDR OBG** a joint venture

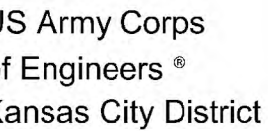
# EROSION AND SEDIMENT CONTROL PLAN

Sheet  
Reference  
Number:

C-04







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5	REVISED FINAL RA CONSTRUCTION DRAWINGS	06/11/18		
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	06/10/18		
3	FINAL RA CONSTRUCTION DRAWINGS	06/27/18		
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	01/16/18		
1	INTERMEDIATE DESIGN	06/27/18		
Symbol	Description	Date	Appr.	

Designed by: TC	Date: 08/27/2015
Drawn by: SK	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

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KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

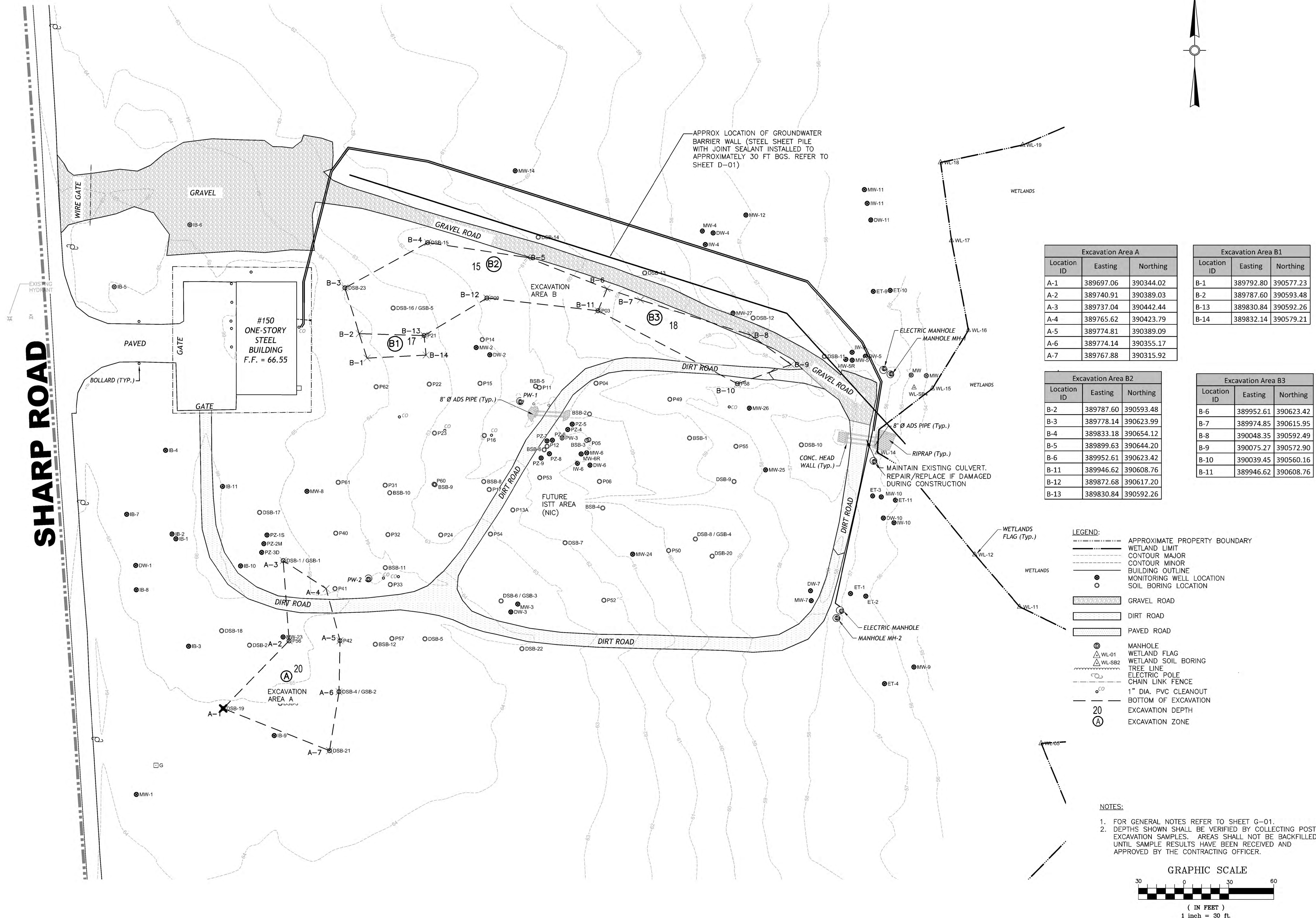
**HDR OBG** a joint venture

ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

# EXCAVATION PLAN

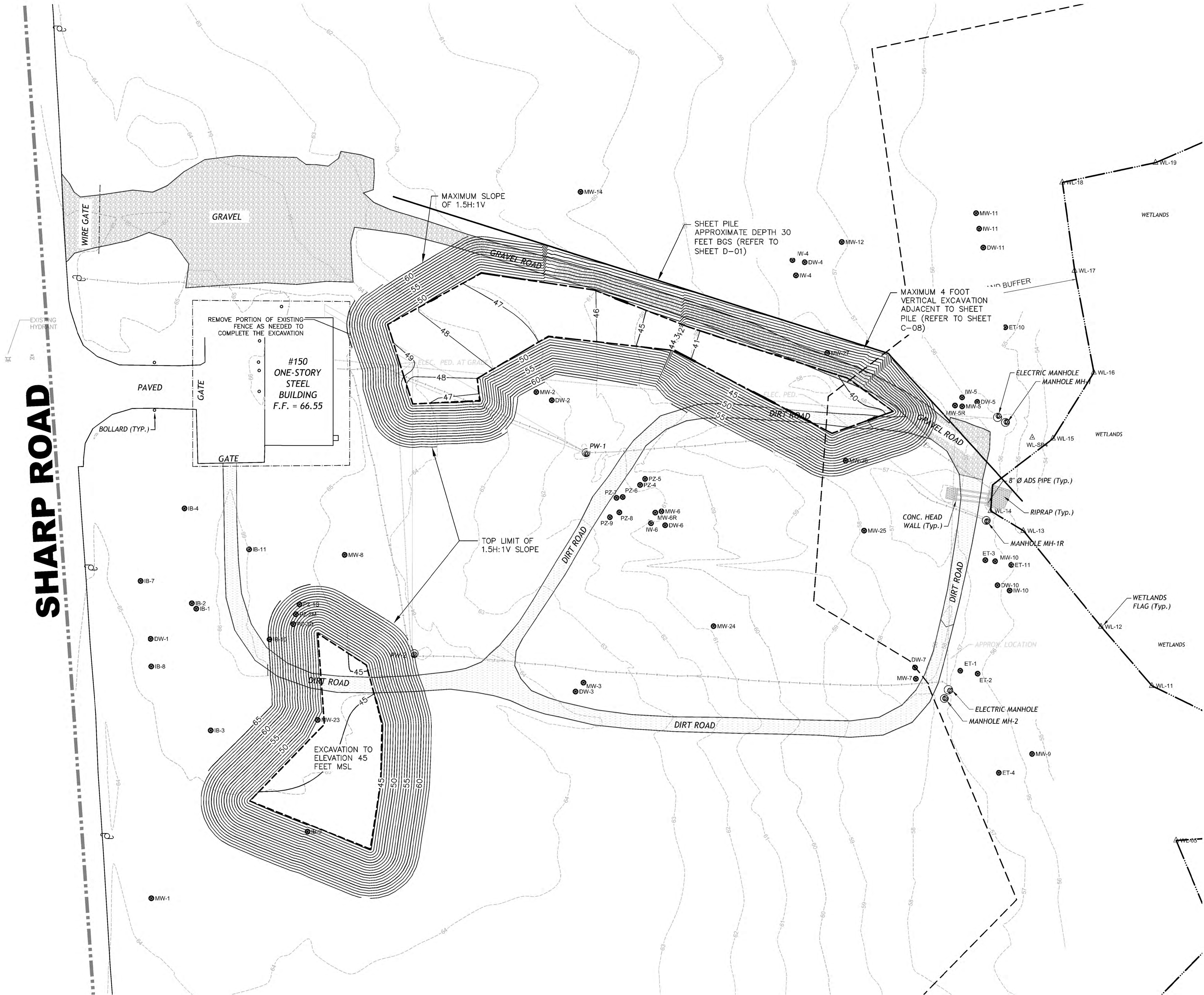
Sheet  
Reference  
Number:

C-05



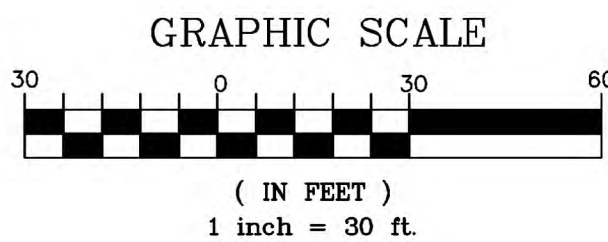


SHARP ROAD



- LEGEND:**
- APPROXIMATE PROPERTY BOUNDARY
  - WETLAND LIMIT
  - CONTOUR MAJOR
  - CONTOUR MINOR
  - BUILDING OUTLINE
  - MONITORING WELL LOCATION
  - GRAVEL ROAD
  - DIRT ROAD
  - PAVED ROAD
  - MANHOLE
  - WETLAND FLAG
  - WETLAND SOIL BORING
  - TREE LINE
  - 100-FT WETLAND BUFFER
  - UNDERGROUND WATER PIPE
  - UNDERGROUND CONTROL CABLE (APPROX. LOCATION)
  - UNDERGROUND ELECTRIC LINE (APPROX. LOCATION)
  - ELECTRIC POLE
  - CHAIN LINK FENCE
  - PROPOSED CONTOUR MAJOR
  - PROPOSED CONTOUR MINOR

- NOTES:**
- FOR GENERAL NOTES REFER TO SHEET G-01.
  - EXCAVATION DEPTHS WILL BE DETERMINED BASED ON RESULTS OF POST EXCAVATION SAMPLES AND AS DIRECTED BY THE CONTRACTING OFFICER.



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Symbol	Description	Date	Appr.
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
3	FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	08/27/15	
1	INTERMEDIATE DESIGN	08/27/15	

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KANSAS CITY DISTRICT  
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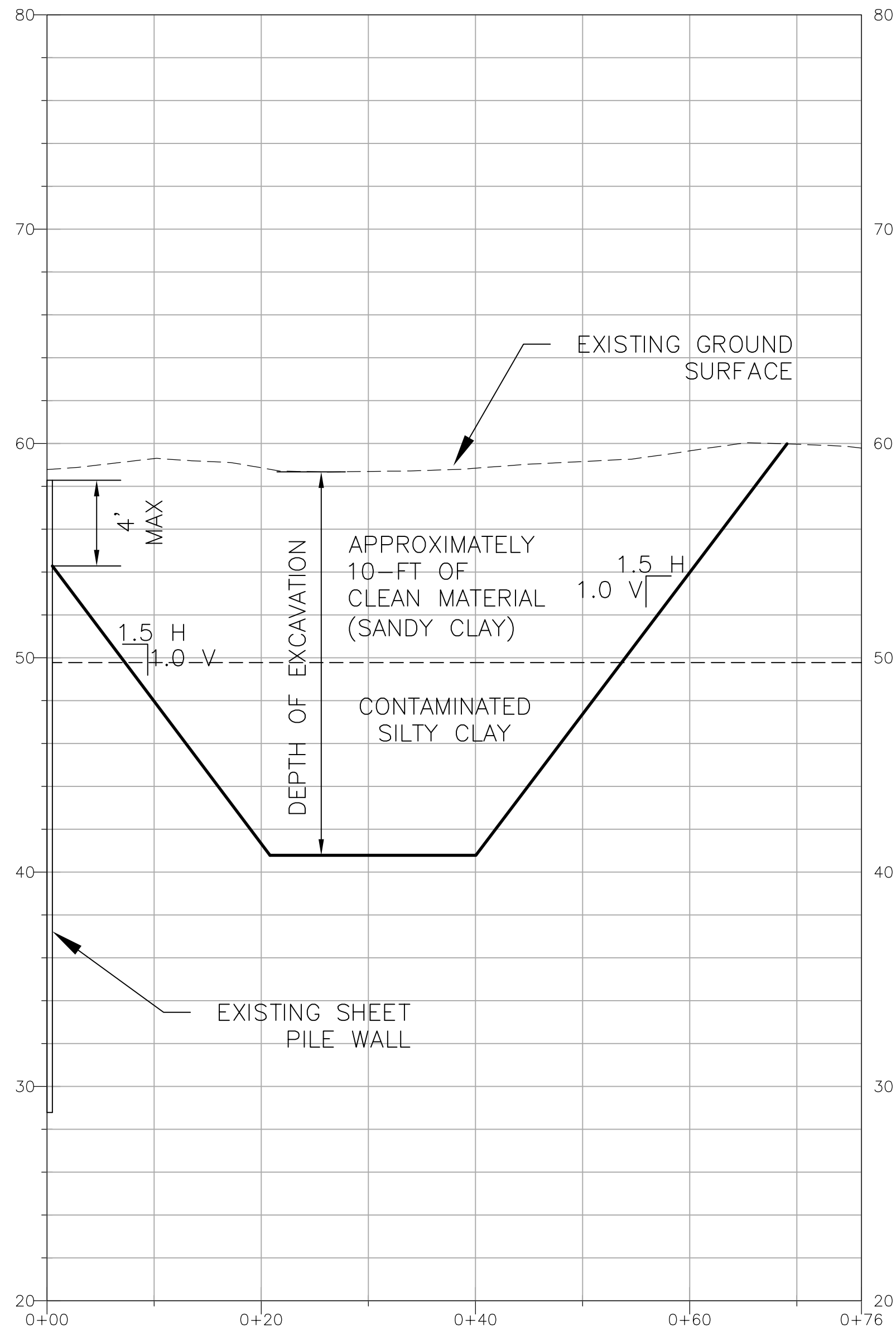
ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

EXCAVATION GRADING  
PLAN

Sheet  
Reference  
Number:

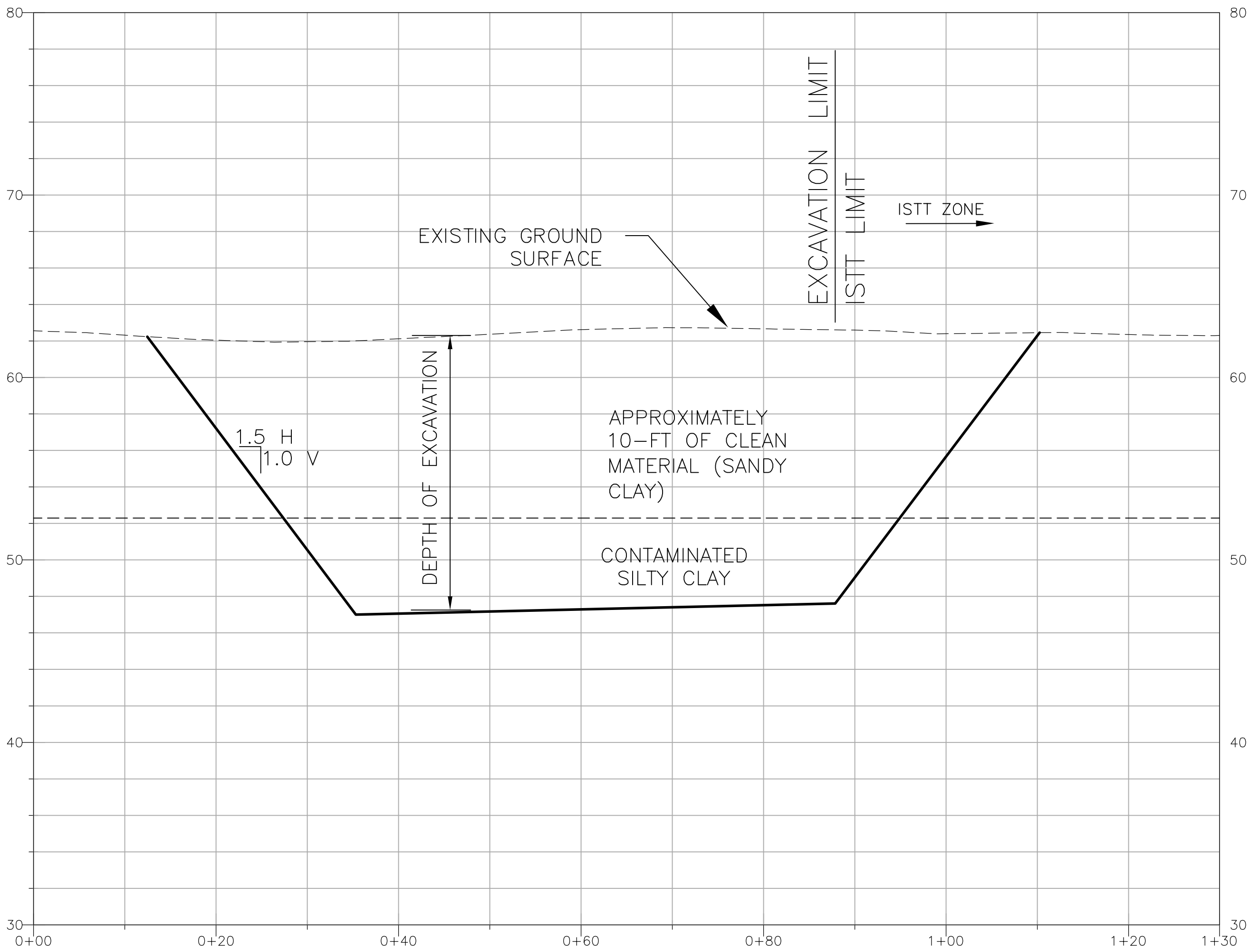
C-06





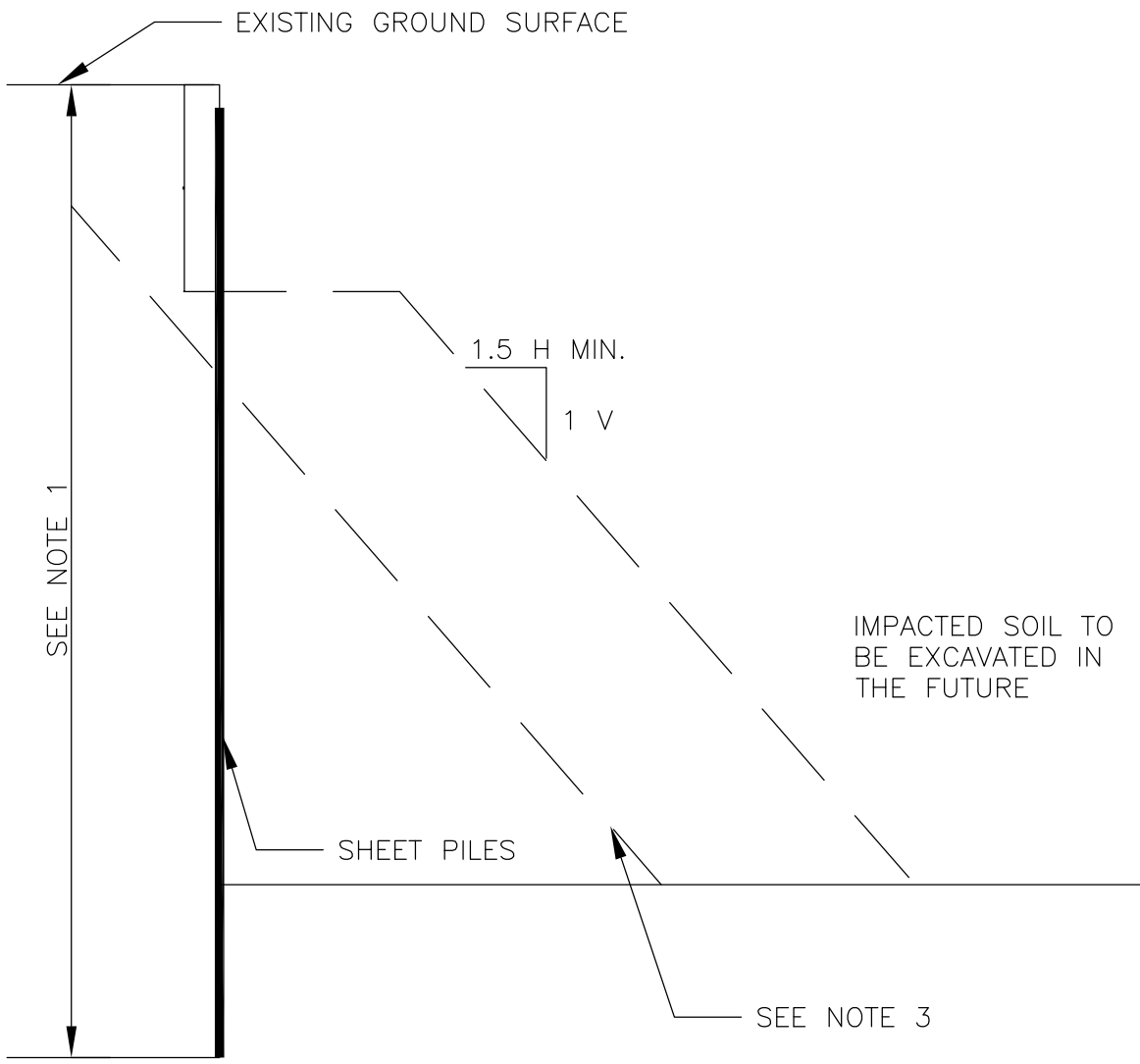
EXCAVATION ALONG EXISTING SHEET PILE WALL DETAIL

SCALE:  
VERTICAL: 1" = 5'  
HORIZONTAL: 1" = 10'



EXCAVATION DETAIL

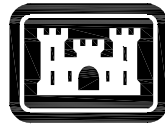
SCALE:  
VERTICAL: 1" = 5'  
HORIZONTAL: 1" = 10'



- NOTES:
- EXISTING STEEL SHEET PILES ARE DRIVEN TO MINIMUM 30 FT BELOW EXISTING GROUND SURFACE OR TO ELEVATION 40 FT AMSL, WHICHEVER IS DEEPER. SHEET PILES ARE SOCKETED AT LEAST 5 FT INTO NAVESINK FORMATION.
  - FUTURE EXCAVATION OF IMPACTED SOIL AREA MUST BE SLOPED AT A GRADIENT OF 1.5H:1.0V, OR FLATTER.
  - IF CLEAN SIDEWALLS ARE NOT OBTAINED THE CONTRACTOR WILL INCREMENTALLY EXCAVATE CLOSER TO THE SHEET PILE WALL WHILE MAINTAINING THE MAXIMUM SLOPE OF 1.5H:1V. THE CONTRACTOR SHALL EXCAVATE BEHIND THE SHEET PILE WALL AS NEEDED TO MAINTAIN THE MAXIMUM SLOPE. CONTRACTOR MAY PROPOSE AN ALTERNATIVE MEANS TO EXCAVATE DEEPER FOR APPROVAL BY THE CONTRACTING OFFICER.

EXCAVATION ALONG EXISTING SHEET PILES

SCALE: N.T.S.



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Symbol	Description	Date	Appr.
5	REVISED FINAL RA CONSTRUCTION DRAWINGS	02/11/15	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	09/16/15	
3	FINAL RA CONSTRUCTION DRAWINGS	06/27/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	07/16/15	
1	INTERMEDIATE DESIGN	05/27/15	

Designed by: TC	Date: 08/27/2015	Drawn by: SK	Drawing code:	Checked by:	Plot scale:	Submitted by: TC	CADD File Name:
U.S. ARMY CORPS OF ENGINEERS KANSAS CITY DISTRICT KANSAS CITY, MISSOURI				HDR OBG a joint venture			

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EVESHAM TOWNSHIP, NEW JERSEY

EXCAVATION DETAIL

Sheet  
Reference  
Number:

C-07





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6	REVISED FINAL RA CONSTRUCTION DRAWINGS		03/26/19	
5	REVISED FINAL RA CONSTRUCTION DRAWINGS		02/17/19	
4	REVISED FINAL RA CONSTRUCTION DRAWINGS		09/10/15	
3	FINAL RA CONSTRUCTION DRAWINGS		08/27/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS		07/16/15	
1	INTERMEDIATE DESIGN		05/27/15	

TC	08/27/2015
Drawn by: SK	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

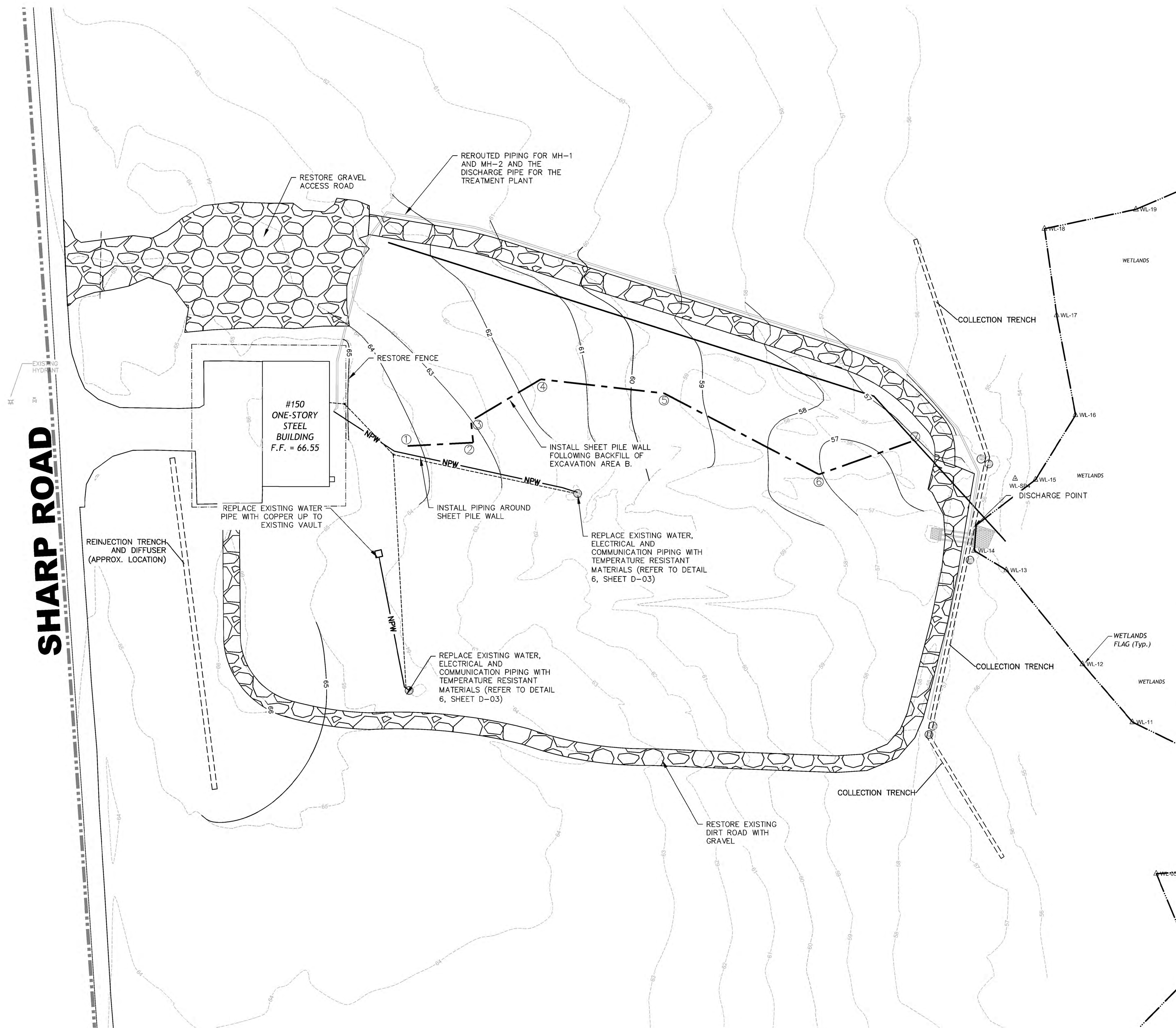
**HDR OBG** a joint venture

ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

# SITE RESTORATION GRADING PLAN

Sheet  
Reference  
Number:

C-08



Sheet Pile Wall Coordinates		
Location ID	Easting	Northing
1	389792.80	390577.23
2	389832.14	390579.21
3	389830.84	390592.26
4	389872.68	390617.20
5	389946.62	390608.76
6	390039.45	390560.16
7	390094.65	390579.80

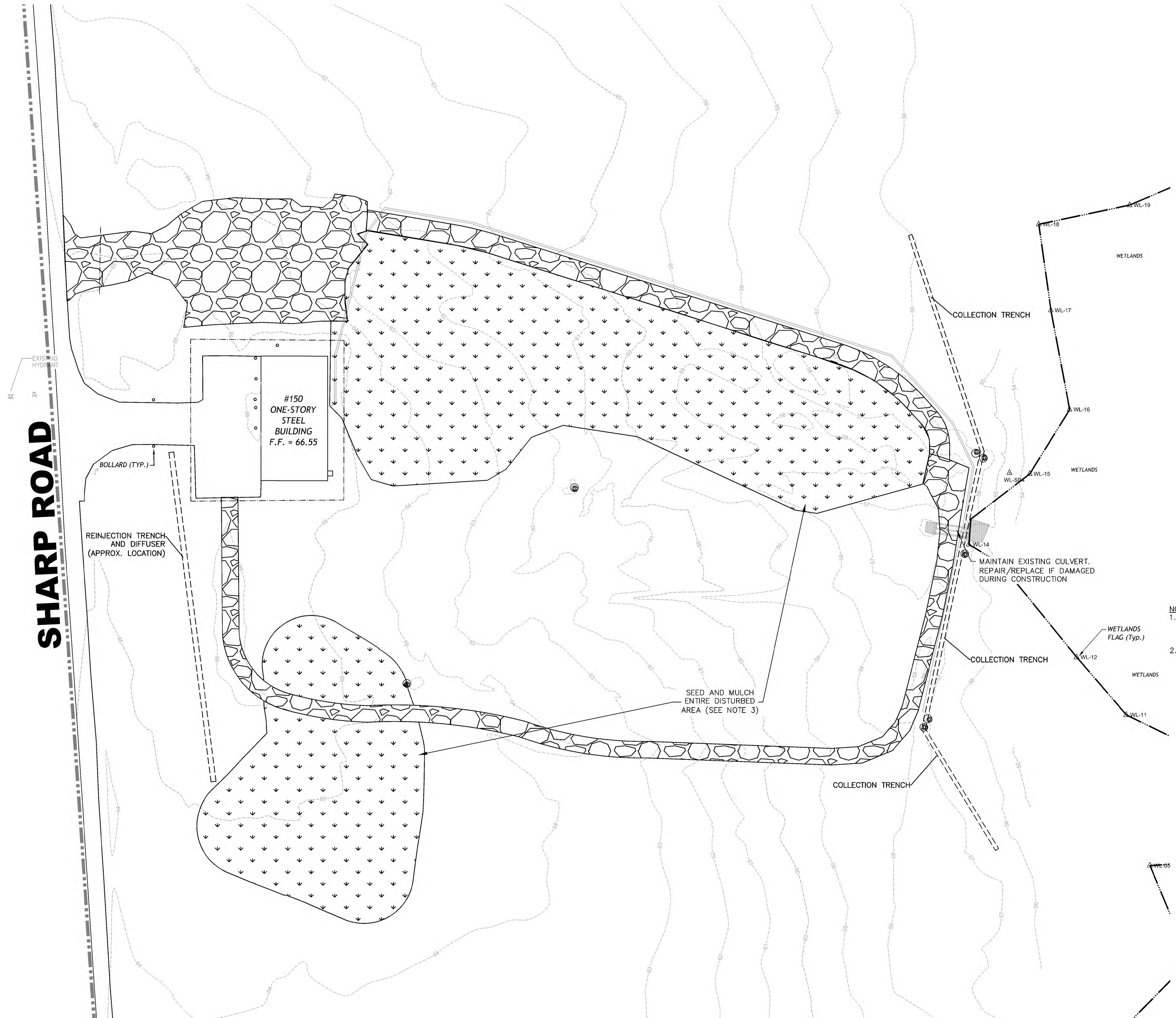
### GRAPHIC SCALE



( IN FEET )  
1 inch = 30 ft.



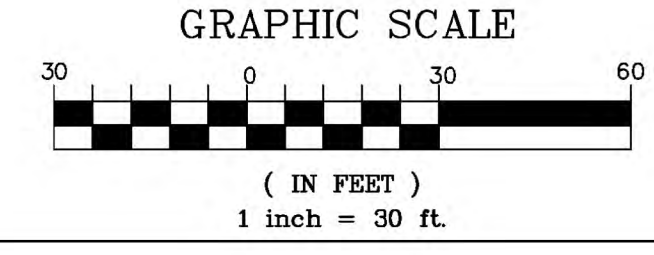
SHARP ROAD



**LEGEND:**

- APPROXIMATE PROPERTY BOUNDARY
- WETLAND LIMIT
- CONTOUR MAJOR
- CONTOUR MINOR
- BUILDING OUTLINE
- PAVED ROAD
- MANHOLE
- WETLAND FLAG
- WETLAND SOIL BORING
- RESTORED GRAVEL DRIVE
- HYDRO SEED AND MULCH

- NOTES:**
- PERIMETER EROSION CONTROL MEASURES WILL NOT BE REMOVED UNTIL ALL AREAS HAVE BEEN STABILIZED AND REMOVAL OF PERIMETER EROSION CONTROL MEASURES HAS BEEN APPROVED BY THE CONTRACTING OFFICER.
  - AREA REQUIRING HYDRO-SEED AND MULCH WILL DEPEND ON THE CONTRACTOR'S OPERATIONS. ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE HYDRO-SEEDED AND MULCHED.



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Kansas City District

ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

**SITE RESTORATION  
REVEGETATION PLAN**

U.S. ARMY CORPS OF ENGINEERS  
KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

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Designed by: TC  
Drawn by: SK  
Checked by: TC  
Submitted by: TC

Date: 08/27/2015  
Drawing code:  
Plot scale:  
CADD File Name:

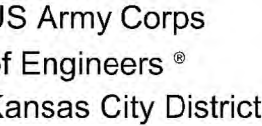
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SIGNATURE

Sheet Reference Number:  
C-09

Symbol	Description	Date	Appr.
5	REVISED FINAL RA CONSTRUCTION DRAWINGS 02/11/19		
4	REVISED FINAL RA CONSTRUCTION DRAWINGS 06/19/19		
3	FINAL RA CONSTRUCTION DRAWINGS 08/27/19		
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS 07/16/19		
1	INTERMEDIATE DESIGN 08/27/19		





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5	REVISED FINAL RA CONSTRUCTION DRAWINGS	02/17/19			
4	REVISED FINAL RA CONSTRUCTION DRAWINGS	09/10/15			
3	FINAL RA CONSTRUCTION DRAWINGS	06/27/15			
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	07/16/15			
1	INTERMEDIATE DESIGN	09/27/15			
	Serial	Domestic	Date	Amount	Account

TC	08/27/2015
Drawn by: SK	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

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KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

KANSAS CITY, MISSOURI

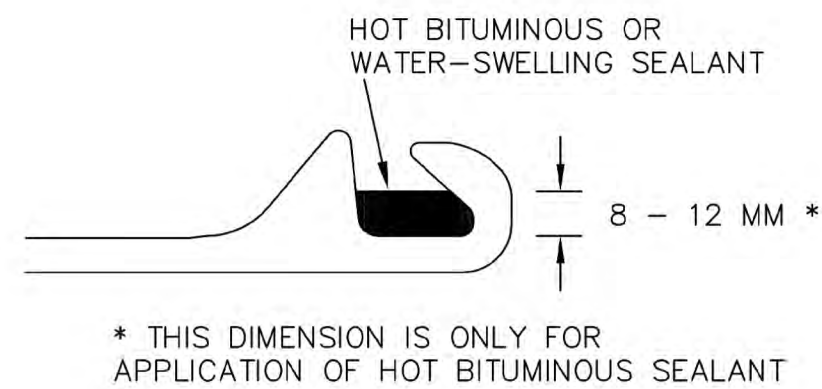
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EVESHAM TOWNSHIP, NEW JERSEY

## EXISTING GROUNDWATER BARRIER WALL DETAILS

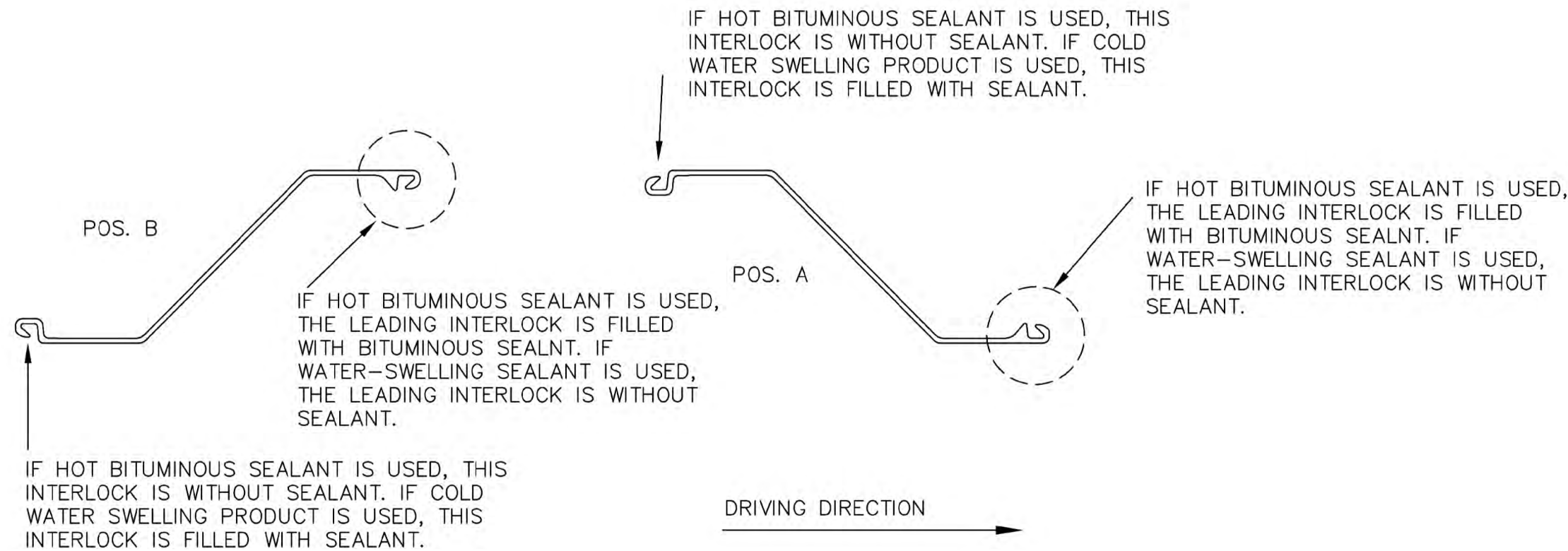
Sheet  
Reference  
Number:

D-01



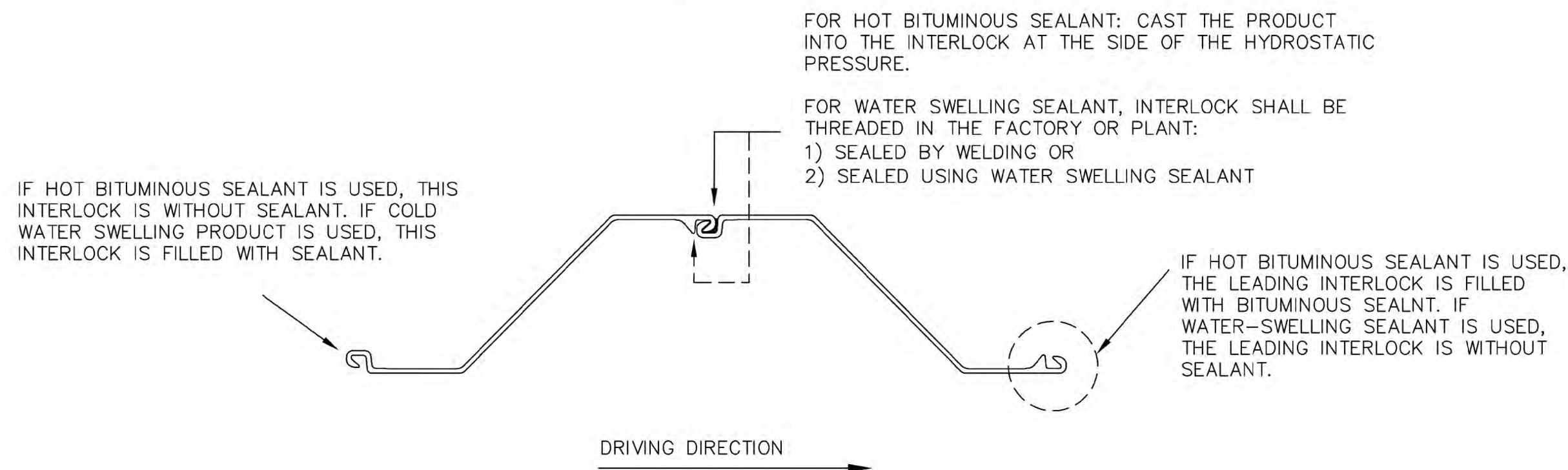
## SEALANT FILLING THE FREE INTERLOCKS

SCALE: N.T.S.



## SEALANT FEEDING INTO THE INTERLOCKS OF SINGLE SHEET PILES

SCALE: N.T.S.



## SEALANT FEEDING INTO THE INTERLOCKS OF THREADED SHEET PILES

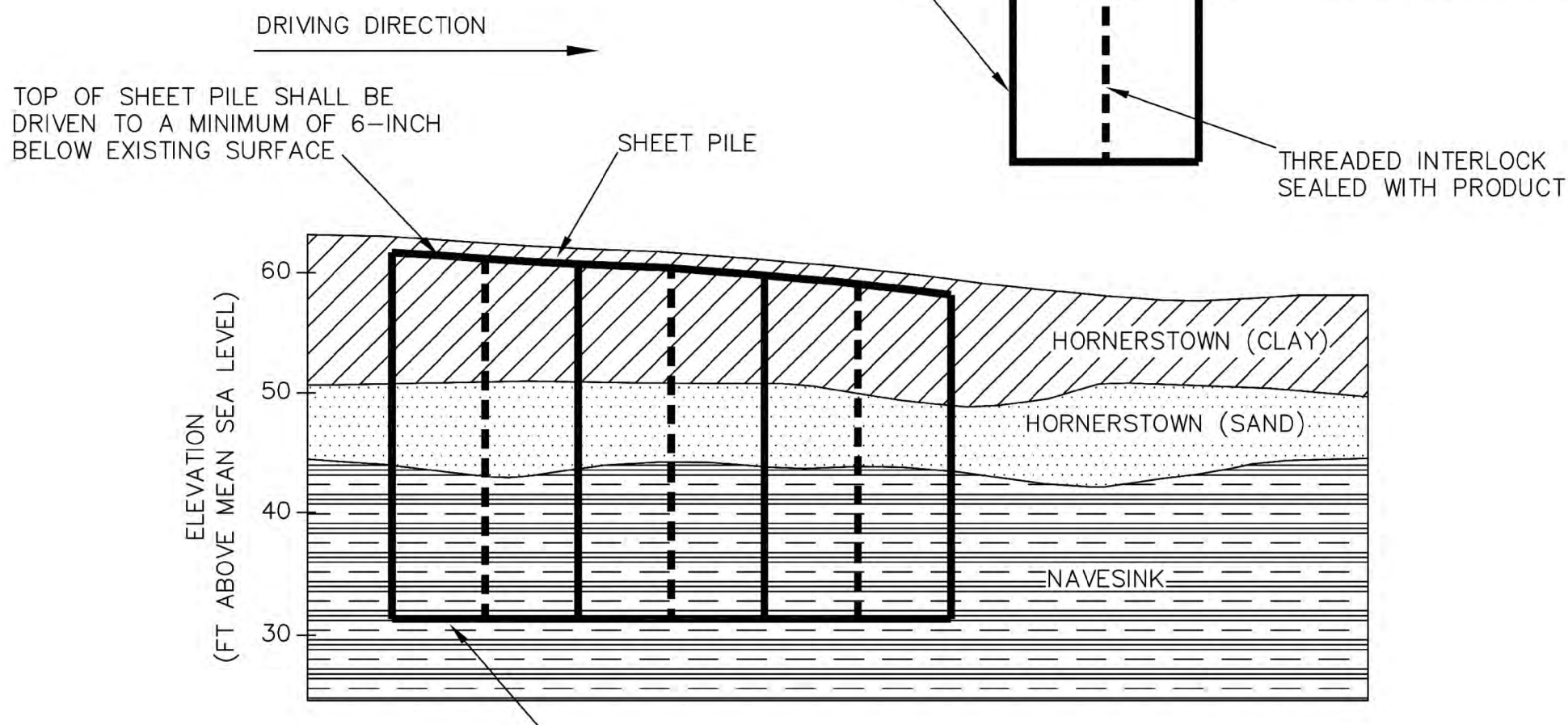
SCALE: N.T.S.

HOT BITUMINOUS SEALANT: INTERLOCK WITHOUT SEALANT

COLD WATER-SWELLING SEALANT: INTERLOCK WITH SEALANT AND SEALANT TO BE LUBRICATED WITH A COMMERCIAL SOAP-BASED PRODUCT IN ACCORDANCE WITH SPECIFICATION SECTION 31 41 16 - GROUNDWATER BARRIER WALL.

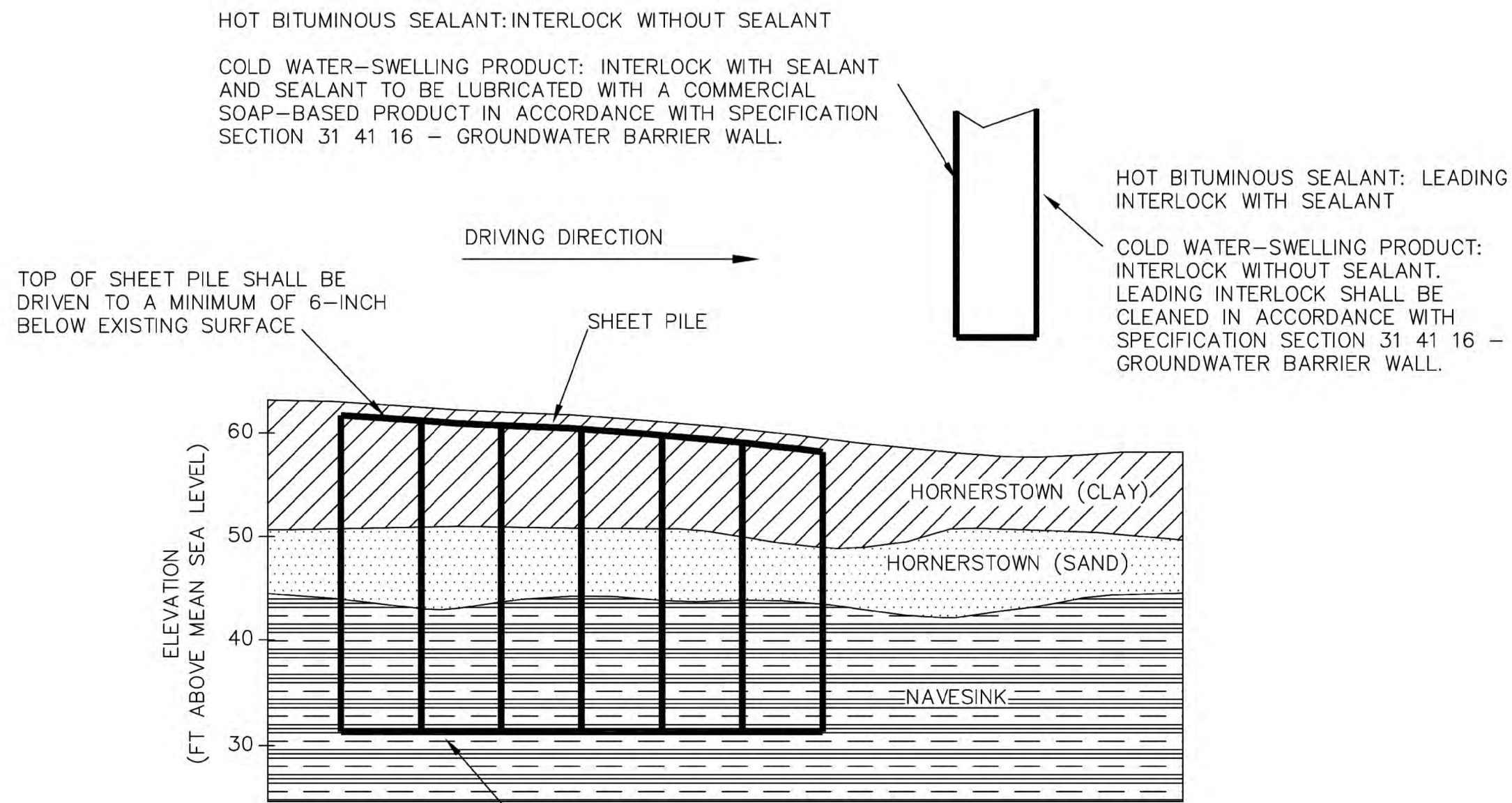
HOT BITUMINOUS SEALANT: LEADING  
INTERLOCK WITH SEALANT

COLD WATER-SWELLING SEALANT:  
INTERLOCK WITHOUT SEALANT.  
LEADING INTERLOCK SHALL BE  
CLEANED IN ACCORDANCE WITH  
SPECIFICATION SECTION 31 41 16  
GROUNDWATER BARRIER WALL.



## THREADED SHEET PILES INSTALLATION ALONG TYPICAL CROSS-SECTION

SCALE: N.T.S.

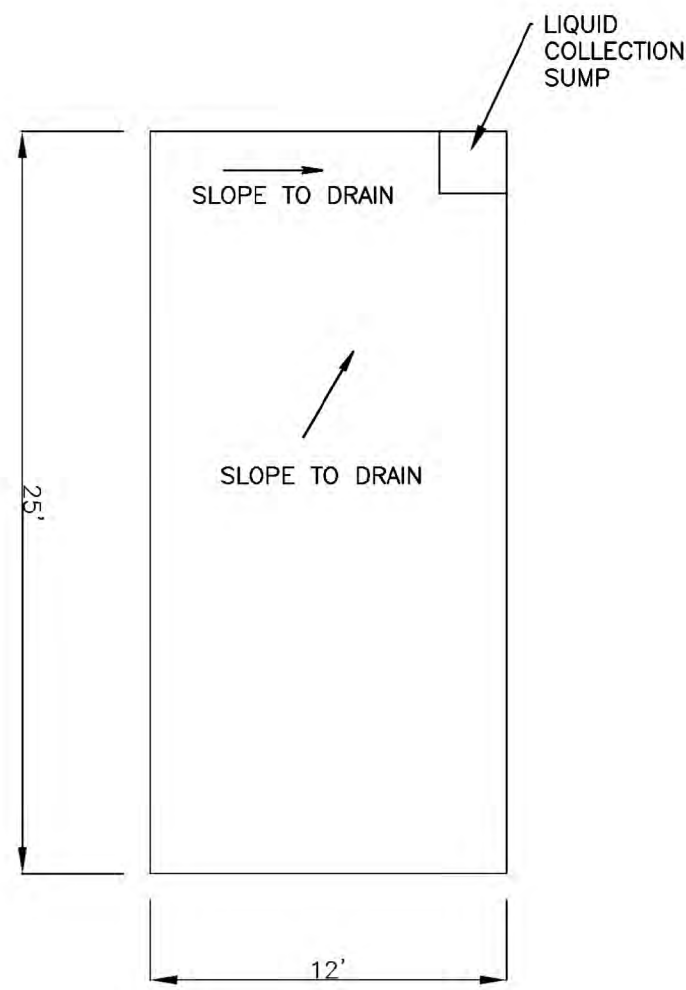


## SINGLE SHEET PILES INSTALLATION ALONG TYPICAL CROSS-SECTION

SCALE: N.T.S.

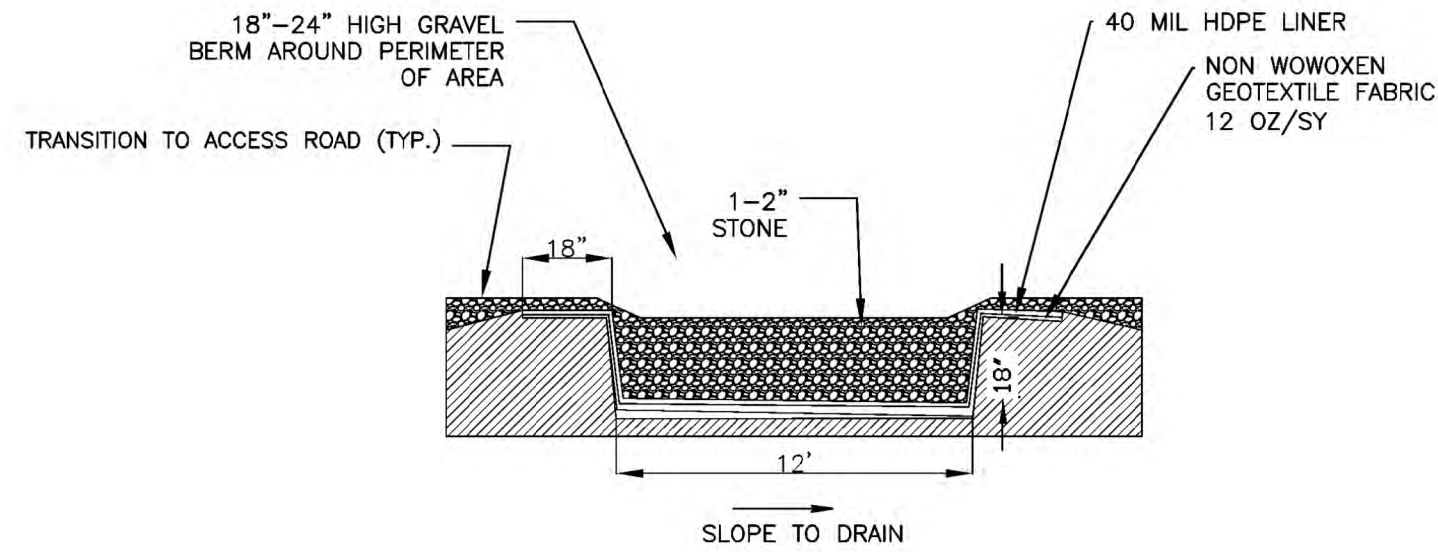
NOTE:  
THIS DRAWING SHOWS THE AS BUILT DETAILS FOR THE EXISTING SHEET PILE WALL. AS BUILT DETAILS WERE TAKEN FROM PLAN SET ENTITLED ELLIS PROPERTY SUPERFUND SITE GROUNDWATER BARRIER WALL PREPARED FOR NJDEP BY THE LOUIS BERGER GROUP, INC. DATED APRIL 22, 2011.





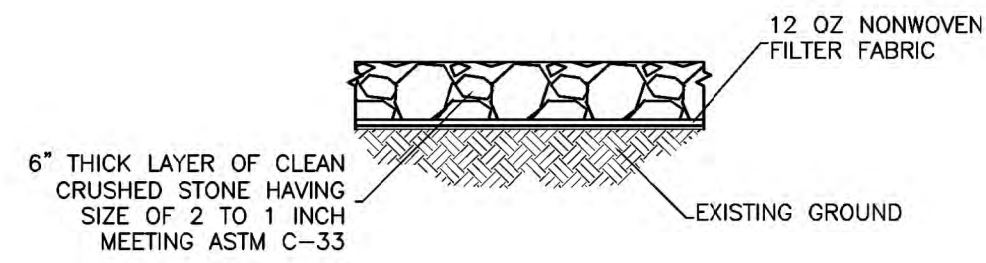
DECONTAMINATION PAD DETAIL PLAN VIEW  
SCALE: N.T.S.

1  
D-02



DECONTAMINATION PAD SECTION DETAIL  
SCALE: N.T.S.

2  
D-02

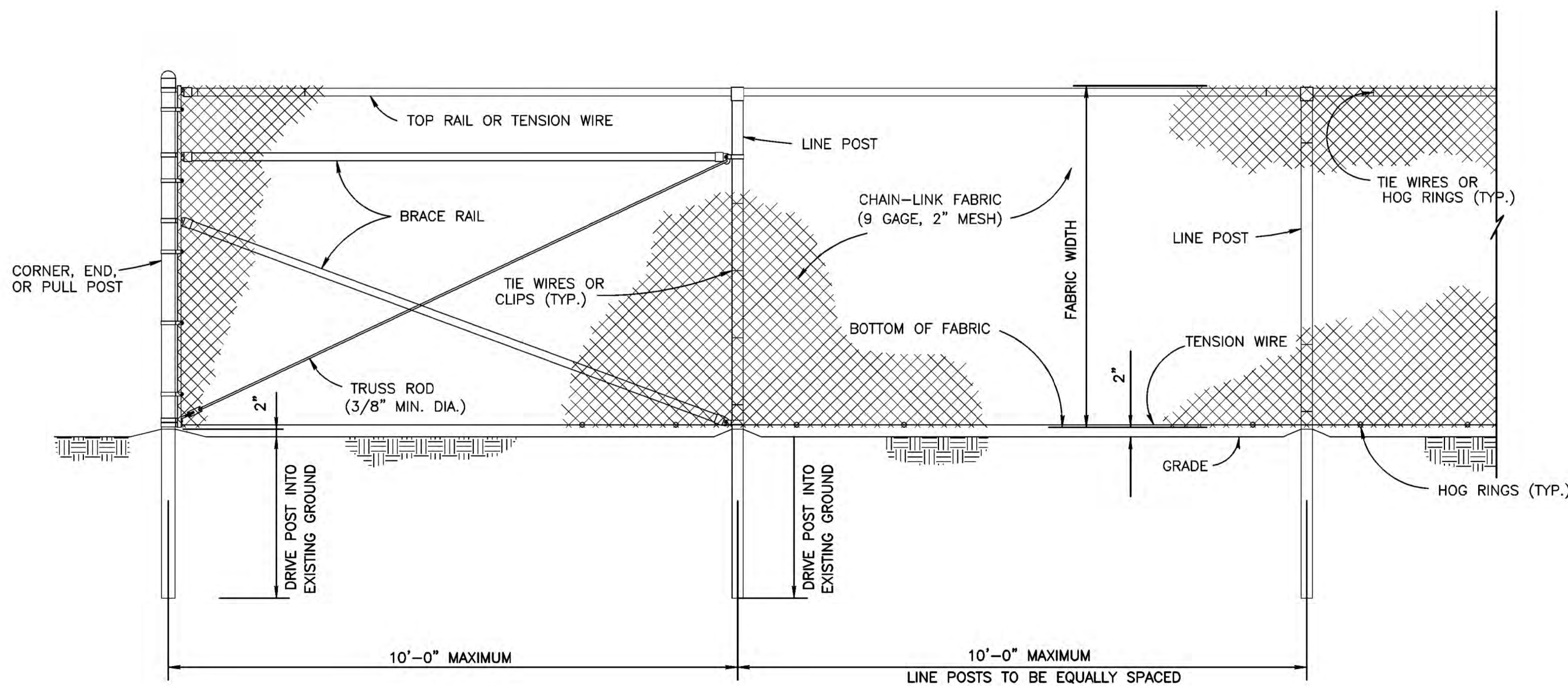


NOTES

1. ROAD WIDTH OF 10 FEET MINIMUM FOR ONE-WAY TRAFFIC OR 24 FEET MINIMUM FOR TWO-WAY TRAFFIC.
2. MAXIMUM SLOPE OF 10%.
3. CLEAR AND STRIP ROADBED AND PARKING AREAS OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
4. LOCATE PARKING AREAS ON NATURALLY FLAT AREAS AS AVAILABLE. KEEP GRADES SUFFICIENT FOR DRAINAGE BUT NOT MORE THAN 2 TO 3 PERCENT.
5. PROVIDE SURFACE DRAINAGE AND DIVERT EXCESS RUNOFF TO STABILIZED AREAS.
6. MAINTAIN CUT AND FILL SLOPES TO 2:1 OR FLATTER AND STABILIZED WITH VEGETATION AS SOON AS GRADING IS ACCOMPLISHED.
7. PROVIDE APPROPRIATE SEDIMENT CONTROL MEASURES TO PREVENT OFFSITE SEDIMENTATION.

CONSTRUCTION ACCESS ROAD  
SCALE: NOT TO SCALE

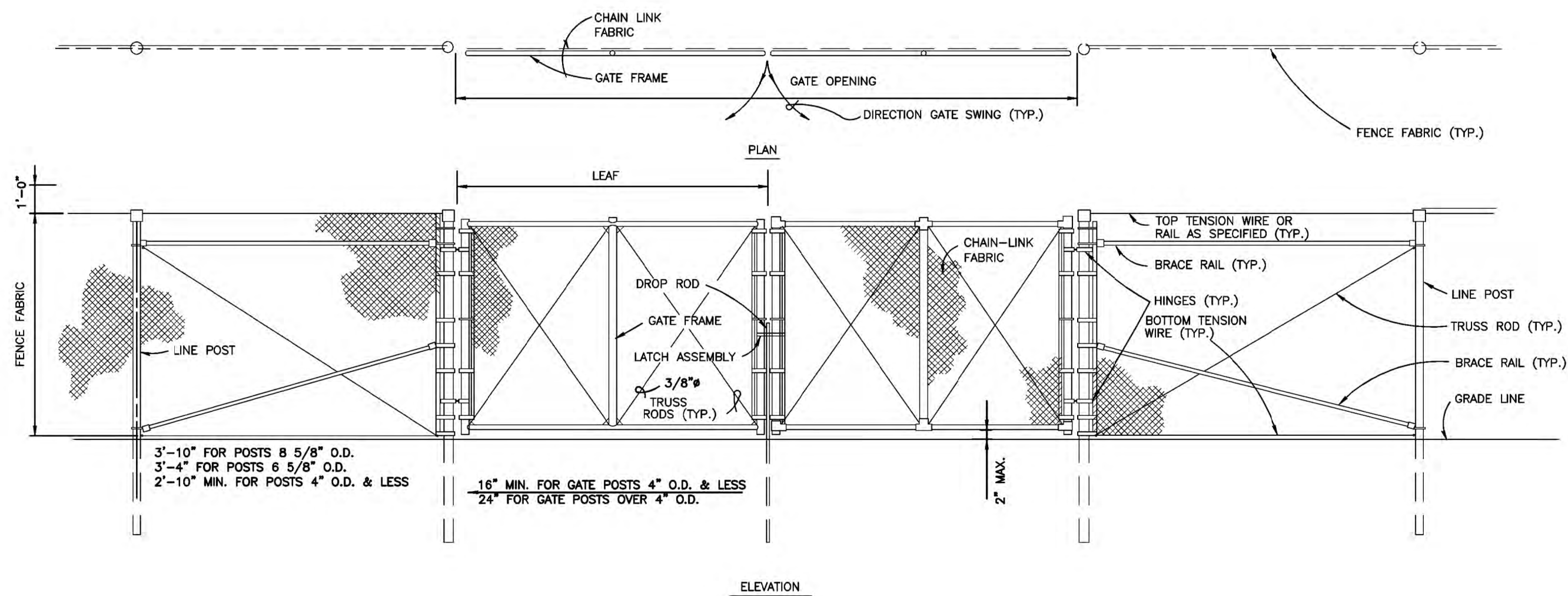
3  
D-02



- NOTE:
1. FENCE SHALL BE INSTALLED TO WITHSTAND A SIDE PRESSURE OF 250 PSI.
  2. IF POST CANNOT BE DRIVEN CONCRETE BASES MAY BE NEEDED.

CHAIN LINK SECURITY FENCE DETAIL  
SCALE: N.T.S.

4  
D-02



DOUBLE SWING GATE (TYPE FE7 FENCE)  
SCALE: N.T.S.

5  
D-02



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5	REVISED FINAL RA CONSTRUCTION DRAWINGS 02/1/19		
4	REVISED FINAL RA CONSTRUCTION DRAWINGS 02/1/19		
3	FINAL RA CONSTRUCTION DRAWINGS 02/27/14		
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS 02/11/14		
1	INTERMEDIATE DESIGN	02/27/14	

Designed by:	TC	Date:	08/27/2015
Drawn by:	SK	Drawing code:	
Checked by:		Plot scale:	
Submitted by:	TC	CADD File Name:	

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KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

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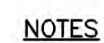
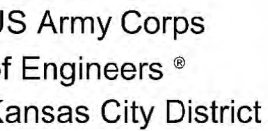
ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

CONSTRUCTION DETAILS  
SHEET 1

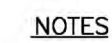
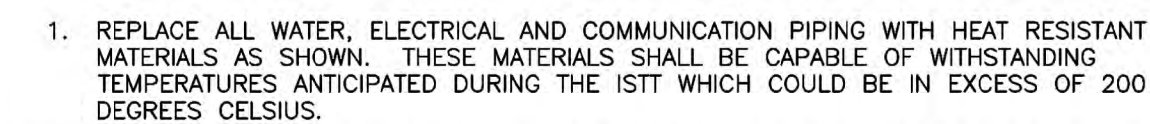
Sheet  
Reference  
Number:

D-02





1. PROVIDE CROWN ALONG ROAD TO PROMOTE DRAINAGE.
2. PROVIDE A MAXIMUM SLOPE OF 10%.
3. CLEAR AND STRIP ROADBED AND PARKING AREAS OF ALL VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.



1. MIN. PIT DIMENSIONS SHALL BE 4'X4'.
2. THE STANDPIPE SHOULD BE CONSTRUCTED BY PERFORATING A 24" DIAMETER CORRUGATED OR PVC PIPE.
3. A BASE OF STONE SHOULD BE PLACED IN THE PIT TO A DEPTH OF 12". AFTER INSTALLING THE STANDPIPE, THE PIT SURROUNDING THE STANDPIPE SHOULD BE BACKFILLED WITH 1-2" STONE.
4. THE STANDPIPE SHOULD EXTEND 12'-18" ABOVE THE LIP OF THE PIT.

[illegible]

Designed by: TC	Date: 08/27/2015
Drawn by: SK	Drawing code:
Checked by:	Plot scale:
Submitted by: TC	CADD File Name:

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KANSAS CITY DISTRICT  
KANSAS CITY, MISSOURI

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ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

CONSTRUCTION DETAILS  
SHEET 2

Sheet  
Reference  
Number:

D-03





## SILT FENCE FASTENER REQUIREMENTS

SCALE: N.T.S.

3

D-04



- TEMPORARY STOCK PILE WITH SILT FENCE DETAIL
- SCALE: N.T.S.
- 4  
D-04



STABILIZED CONSTRUCTION DRIVEWAY

SCALE: N.T.S.

5  
D-04

- 
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4	REVISED FINAL RA CONSTRUCTION DRAWINGS	01/10/15	
3	FINAL RA CONSTRUCTION DRAWINGS	08/07/15	
2	DRAFT FINAL RA CONSTRUCTION DRAWINGS	07/16/15	
1	INTERMEDIATE DESIGN	06/27/15	
Symbol	Description	Date	Appr.

<b>HDR OBG</b> a joint venture	Checked by:	Plot scale:
	Submitted by: TC	CADD File Name:

ELLIS PROPERTY SUPERFUND SITE  
EVESHAM TOWNSHIP, NEW JERSEY

## EROSION CONTROL DETAILS

Sheet  
Reference  
Number:

0-04